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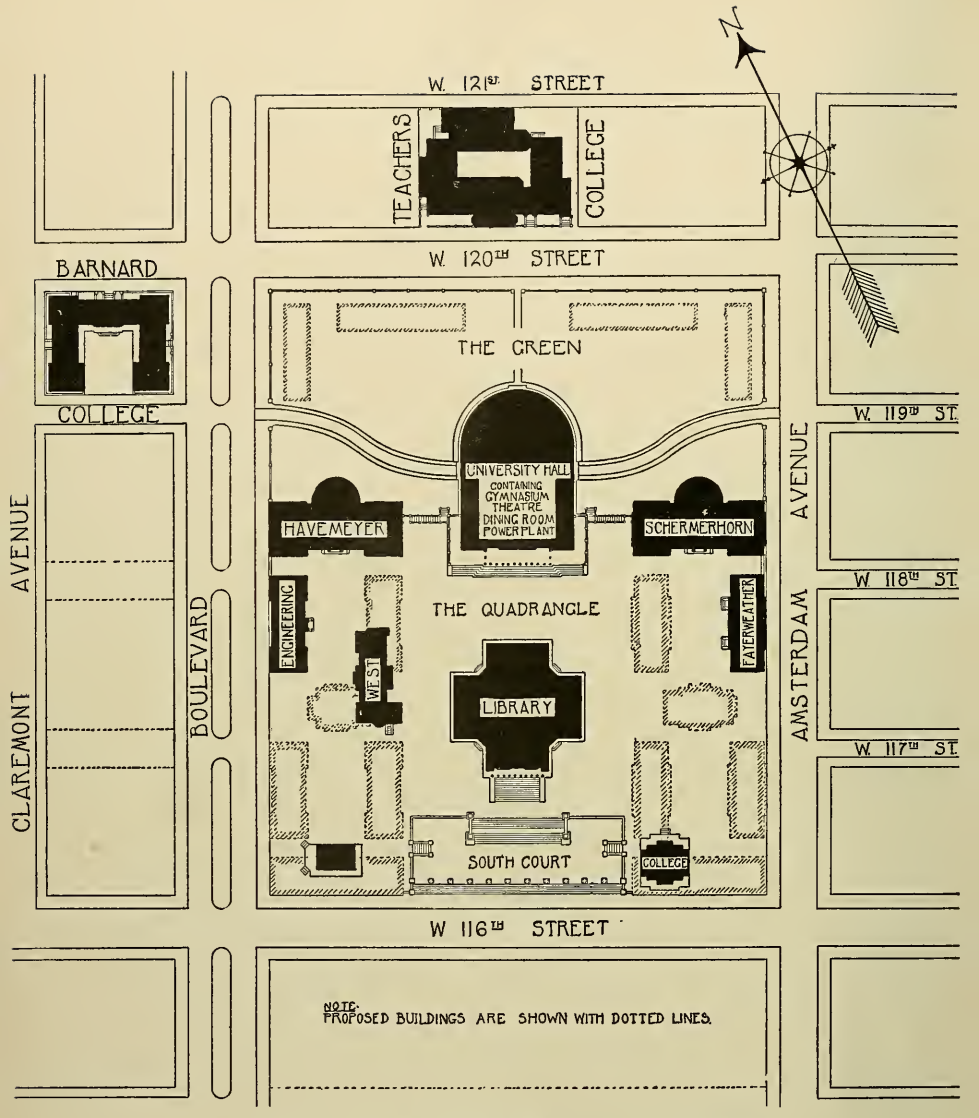
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JONATHAN BRACE CHITTENDEN, Ph.D.....Tutor in Mathematics
*CURTIS HIDDEN PAGE, Ph.D.....Tutor in the Romance Languages and Literatures
CHARLES C. TROWBRIDGE, B.S.....Tutor in Physics
GEORGE CLINTON DENSMORE ODELL, Ph.D....Tutor in Rhetoric and English Composition
WILLIAM ADDISON HERVEY, A.M.....Tutor in the Germanic Languages and Literatures
ADOLPH BLACK, C.E.....Tutor in Civil Engineering
SAMUEL A. TUCKER, Ph.B.....Tutor in Industrial Chemistry
CASSIUS JACKSON KEYSER, A.M.....Tutor in Mathematics
J. LIVINGSTON RUTGERS MORGAN, B.S., Ph.D.,Tutor in Chemical Philosophy and Chemical Physics
FRANK LEO TUFTS, Ph.D.....Tutor in Physics
JOHN ALEXANDER MATHEWS, M.S., Ph.D.....Tutor in General Chemistry
MILTON C. WHITAKER, B.S.....Tutor in General Chemistry
COLIN CAMPBELL STEWART, Ph.D.....Tutor in Physiology
RUDOLF TOMBO, Ph.D.....Tutor in the Germanic Languages and Literatures
WILLIAM S. DAY, Ph.D.....Tutor in Physics
JAMES HOWARD MCGREGOR, Ph.D.....Tutor in Zoölogy
LEONARD BEECHER MCWHOOD, A.B.....Tutor in Music
S. ALFRED MITCHELL, Ph.D.....Tutor in Astronomy
AUGUST JEROME LARTIGAU, M.D.....Tutor in Pathology
FITZHUGH TOWNSEND, A.B., E.E.....Tutor in Electrical Engineering
HENRY E. CRAMPTON, Ph.D.....Tutor in Zoölogy

* Absent on leave

Assistants

HERBERT PERCY WHITLOCK, C. E. Assistant in Mineralogy
PARKER CAIRNS MCILHINEY, Ph.D. Assistant in Metallurgy
HENRY JAGOE BURCHELL, Jr., A.M. Assistant in Latin
CHARLES KNAPP, Ph.D. Assistant in Latin
FREDERICK R. BAILEY, M.D. Assistant in Normal Histology
JAMES DENNISON ROGERS, Ph.D. Assistant in Greek
JOHN HENRY LARKIN, M.D. Assistant in Pathology and Curator of the Museum
THEODORE GREELY WHITE, Ph.D. Assistant in Physics
CHARLES T. PARKER, M.D. Assistant in Operative Surgery
EDWARD L'H. MCGINNIS, M.D. Electro-Therapeutist
FLORA E. HARPHAM, A.M. Computor at the Observatory
FRANK C. HOOPER, Met.E. Assistant in Mining
HENRY F. HORNBOSTEL Assistant in Architecture
CAVALIER HARGRAVE JOÜET, Ph.D. Assistant in Analytical Chemistry
WILLIAM FREDERICK NEUMANN, M.D. Assistant in Bacteriology
WILLIAM CLAFLIN ANDREWS, E.E. Assistant in Physics
EDWARD L. COSTER Assistant in Mechanical Engineering
ALFRED NEWTON RICHARDS, A.B. Assistant in Physiological Chemistry
WALTER WHEELER COOK, A.M. Assistant in Mathematics
HENRY BEDINGER MITCHELL, E.E. Assistant in Mathematics
D. STUART DODGE JESSUP, M.D. Assistant in Normal Histology and Clinical Assistant in Surgery
JOHN DRISCOLL FITZ-GERALD, II, A.B. Assistant in the Romance Languages and Literatures
LEON LAIZER WATTERS, B.S., A.M. Assistant in General Chemistry
ADAM LEROY JONES, Ph.D. Assistant in Philosophy
VICTOR LENHER, Ph.D. Assistant in Analytical Chemistry
SAMUEL OSGOOD MILLER, C.E. Assistant in Mechanical Engineering
WILLIAM B. JOHNSTONE, C.E. Assistant in Physics
OSCAR RAYMOND WILSON, B.M.E. Assistant in Mechanical Engineering
JOHN GARRETT UNDERHILL, Ph.D. Assistant in Literature
JOEL ELIAS SPINGARN, Ph.D. Assistant in Literature
LEWIS NATHANIEL CHASE, A.M. Assistant in Literature
ARTHUR F. J. REMY, A.M. Assistant in Germanic Philology
BARRY HOGARTY Assistant in Analytical Chemistry
EMILIUS W. SCHERR, Jr., A.M. Assistant in Organic Chemistry
ERNEST NASH WILCOX, M.D. Assistant in Normal Histology
ELI LONG, M.D. Assistant in Normal Histology
EVAN M. EVANS, M.D. Assistant in Clinical Microscopy
WILLIAM D. CUTTER, A.B. Assistant in Physiological Chemistry
FREDERICK CLARK PAULMIER, M.S. Assistant in Zoölogy
FRANK SUTLIFF HACKETT, A.B. Assistant in Rhetoric and English Composition
GEORGE BALTHAZAR GERMANN, Ph.D. .. Assistant in Philosophy and Education
AUGUSTUS B. WADSWORTH, M.D. Assistant in Bacteriology

PHILIP G. CARLETON, A.B.....Assistant in Rhetoric and English Composition
CLARK WISSLER, A.M.....Assistant in Psychology
LESLIE MCHARG, C.E.....Assistant in Civil Engineering
HENRY FISHER, B.S.....Assistant in Analytical Chemistry
CHARLES SIDNEY AYLMER-SMALL, E.E....Assistant in Electrical Engineering
WILLIAM W. COMSTOCK, A.B.....Assistant in Physics
HOMER MUNRO DERR, A.B.....Assistant in Physics
ALBERT PHILIP BAUMANN, E.M. Assistant in Metallurgy

Curators

MAXIMILIAN K. KRESS, A.M.... Curator and Lecturer in Architecture
GILBERT VAN INGEN.....Curator of the Geological Collections
MARSHALL AVERY HOWE, Ph.D..... Curator of the Herbarium

Lecturers

WILLIAM ZEBINA RIPLEY, Ph.D.....Prize Lecturer in Sociology
REV. ABRAHAM YOHANNAN.....Lecturer in Oriental Languages
CHARLES AUGUSTUS STRONG, A.B..... Lecturer in Psychology
WILLIAM ROBERT SHEPHERD, Ph.D.....Lecturer in History
CHARLES T. TERRY, A.B., LL.B.....Lecturer in the Law School
GEORGE JAMES BAYLES, Ph.D..Prize Lecturer on the Civil Aspects of Ecclesiastical Organizations
WILLIAM T. PARTRIDGE.....Lecturer in Architectural Design
RUSSELL H. CHITTENDEN, Ph.D..Director of the Department of Physiological Chemistry and Lecturer
WELLINGTON PUTNAM.....Lecturer on Elocution
HENRY BARGY, A.M.... Lecturer in the Romance Languages and Literatures
GEORGE WILLIAM HILL, Sc.D., LL.D.....Lecturer in Celestial Mechanics
MORTIMER LAMSON EARLE, Ph.D.....Lecturer in Greek
GEORGE N. OLCOTT, Ph.D.....Lecturer in Roman Archæology
RICHARD HOVEY, Litt D.....Lecturer in English Literature
HARRY ALONZO CUSHING, Ph.D.....Lecturer in History
DANIEL JORDAN, B.S., Pd.B..... ..Lecturer in the Romance Languages and Literatures
GUSTAV HINRICHS Conductor of Music
WILLIAM A. NITZE, A.B.....Lecturer in the Romance Languages and Literatures
HARLAN FISKE STONE, B.S., LL.B.....Lecturer in the Law School
JOHN ARCHIBALD FAIRLIE, Ph.D.....Prize Lecturer in Administration
HENRY CLAPP SHERMAN, Ph.D.....Lecturer in Analytical Chemistry

Clinical Assistants at the Vanderbilt Clinic

JOHN ALDRICH, M.D.....Dermatology
WILLIAM ARMSTRONG, M.D.....Medicine
CHARLES E. ATWOOD, M.D.....Neurology
J. C. AYER, M.D.....Surgery
PEARCE BAILEY, M.D.....Neurology

DONALD M. BARSTOW, M.D. Medicine
EDMUND W. BILL, M.D. Laryngology
A. B. BONAR, M.D. Neurology
WILLIAM L. BRADLEY, M.D. Gynecology
ARTHUR R. BRAUNLICH, M.D. Medicine
WALTER B. BROUNER, M.D. Venereal Diseases
JOHN CABOT, M.D. Dermatology
ARCHIBALD CAMPBELL, M.D. Neurology
M. L. CARR, M.D. Otology
CURTIS B. CARTER, M.D. Ophthalmology
WILLIAM H. CASWELL, M.D. Neurology
ARTHUR P. COLL, M.D. Laryngology
F. R. COOK, M.D. Surgery
R. H. CUNNINGHAM, M.D. Neurology
CHARLES T. DADE, M.D. Dermatology
EDMUND L. DOW, M.D. Medicine
JONATHAN DWIGHT, JR., M.D. Laryngology
J. IVES EDGERTON, M.D. Gynecology
LEONARD W. ELY, M.D. Orthopædic Surgery
ALBERT W. FERRIS, M.D. Neurology
EDWARD M. FOOTE, M.D. Surgery
S. W. FOWLER, M.D. Venereal Diseases
PEDRO FRANCKE, M.D. Surgery
JOSEPH E. FULD, M.D. Laryngology
HOMER W. GIBNEY, M.D. Orthopædic Surgery
WILLIAM C. GILLEY, M.D. Venereal Diseases
S. P. GOODHART, M.D. Neurology
EDMUND Y. HILL, M.D. Venereal Diseases
JOHN H. P. HODGSON, M.D. Dermatology
WARD A. HOLDEN, M.D. Ophthalmology
WOOLSEY HOPKINS, M.D. Laryngology
JOSEPH HUBER, M.D. Diseases of Children
LEE M. HURD, M.D. Laryngology
S. E. JELLIFFE, M.D. Neurology
JOHN M. KENNEDY, M.D. Gynecology
B. E. KRYSTALL, M.D. Neurology
JOHN LESHURE, M.D. Laryngology
JOHN J. MCCOY, M.D. Laryngology
JAMES P. MCEVOY, M.D. Laryngology
FERDINAND S. MCHALE, M.D. Diseases of Children
E. PIERRE MALLETT, M.D. Gynecology
GEORGE H. MALLETT, M.D. Gynecology
H. E. MEEKER, M.D. Surgery
ALFRED MICHAELIS, M.D. Otology
JACKSON M. MILLS, M.D. Ophthalmology
FRANK R. OASTLER, M.D. Gynecology
MORTON R. PECK, M.D. Neurology

Charles I. Proben, M.D.....Gynecology
Charles C. Ransom, M.D.....Dermatology
C. C. Rathbone, M.D.....Venereal Diseases
W. S. Reynolds, M.D.....Venereal Diseases
Arthur M. Shrady, M.D.....Medicine
Louis M. Silver, M.D.....Diseases of Children
Frederick E. Sondern, M.D.....Diseases of Children
John B. Stein, M.D.....Venereal Diseases
Benjamin W. Stiefel, M.D.....Gynecology
Horace S. Stokes, M.D.....Orthopædic Surgery
Albert E. Sumner, M.D.....Medicine
A. S. Taylor, M.D.....Surgery
Allan G. Terrell, M.D.....Otology
W. D. Trenwith, M.D.....Venereal Diseases
Henry H. Tyson, M.D.....Ophthalmology
Newton B. Waller, M.D.....Orthopædic Surgery
Louis R. Welzmiller, M.D.....Orthopædic Surgery
Edward L. Williamson, M.D.....Venereal Diseases

Emeritus Officers

Rev. Cornelius R. Duffie, S.T.D.....Chaplain Emeritus
Thomas M. Markoe, M.D.....Emeritus Professor of Surgery
T. Gaillard Thomas, M.D.....Emeritus Professor of Obstetrics and Gynecology
John T. Metcalfe, M.D.....Emeritus Professor of Clinical Medicine
Edward Curtis, M.D.....Emeritus Professor of Materia Medica and Therapeutics
Fessenden N. Otis, M.D....Emeritus Professor of Genito-Urinary Diseases
John D. Quackenbos, A.M., M.D.....Emeritus Professor of Rhetoric
Nathaniel Lord Britton, Ph.D.....Emeritus Professor of Botany
Thomas Egleston, E.M., Ph.D., LL.D...Emeritus Professor of Mineralogy and Metallurgy
John Ordronaux, M.D., LL.D..Emeritus Professor of Medical Jurisprudence
James W. McLane, M.D.....Emeritus Professor of Obstetrics
William H. Draper, M.D.....Emeritus Professor of Clinical Medicine
George H. Baker, A.M.....Librarian Emeritus

Advisory Committee on Art

Charles F. McKim
Daniel C. French
Edwin H. Blashfield

Columbia University in the City of New York

GENERAL STATEMENT

On October 31, 1754, during the reign of George II., His Majesty's Letters Patent under the Great Seal of the Province were issued, incorporating THE GOVERNORS OF THE COLLEGE OF THE PROVINCE OF NEW YORK IN THE CITY OF NEW YORK IN AMERICA, and providing for the establishment of a College to be known as "Kings College," "for the Instruction and Education of Youth in the Learned Languages and in the Liberal Arts and Sciences." The interpretation placed upon this clause of the Charter, at the time, is shown by the original announcement of Kings College in 1754, which, in part, reads as follows: "Vth and Lastly, A serious, virtuous, and industrious Course of Life being first provided for, it is further the Design of this College, to instruct and perfect the Youth in the learned Languages, and in the Arts of Reasoning exactly, of Writing correctly, and Speaking eloquently: And in the Arts of Numbering and Measuring, of Surveying and Navigation, of Geography and History, of Husbandry, Commerce and Government; and in the Knowledge of all Nature in the Heavens above us, and in the Air, Water and Earth around us, and the various Kinds of Meteors, Stones, Mines and Minerals, Plants and Animals, and of every Thing useful for the Comfort, the Convenience, and Elegance of Life, in the chief Manufactures relating to any of these things: And finally, to lead them from the Study of Nature, to the Knowledge of themselves, and of the God of Nature, and their Duty to Him, themselves, and one another; and every Thing that can contribute to their true Happiness both here and hereafter."

The charter named as Governors the Archbishop of Canterbury, the Governor of the Province, certain officers of the Crown, ex-officio, the Rector of Trinity Church, and the Ministers of the Reformed Dutch, Lutheran, French, and Presbyterian Churches, for the time being, and twenty-four residents of the city. Under this charter, Kings College was founded, continuing to be known by that name until 1784. An additional charter was granted May 30, 1755, authorizing the appointment of a Professor of Divinity by the Reformed Protestant Dutch Church.

Upon the convening of the Legislature of the State of New York in 1784, an act was passed incorporating the "REGENTS OF THE UNIVERSITY OF THE STATE OF NEW YORK," and vesting the property of Kings College in the Regents. The act also changed the name of the College to Columbia College.

In 1787, this act was repealed, and a statute was passed enacting "that the Charter heretofore granted to the Governors of the College of the Province of New York in the City of New York in America, dated the thirty-first day of October, in the year of our Lord one thousand seven hundred and fifty-four, shall be and hereby is fully and absolutely ratified and confirmed, in all respects, except that the College thereby established shall be henceforth called Columbia College"; and "that the style of the said corporation shall be, The Trustees of Columbia College in the City of New York." Certain other amendments also were made in the charter to conform to the new conditions.

In 1810, the charter was again amended in certain particulars at the request of the Trustees, and re-enacted, but the corporate title remained and still continues unchanged. The title to all corporate property is vested in a board of twenty-four Trustees, whose term of office is for life, and who form a self-perpetuating body, exercising the power of appointment as to all officers of instruction and administration.

On February 3, 1896, the Trustees adopted the following resolution:

"Resolved, That in all official publications hereafter issued by or under authority of the Trustees, all the departments of instruction and research maintained and managed by this corporation may, for convenience, be designated collectively as 'Columbia University in the City of New York,' or 'the University'; and the School of Arts, as the same is now known and described, may hereafter be designated as 'Columbia College,' or 'the College.'"

The President has charge of the educational administration of the University and is Chairman of the University Council and of every faculty established by the Trustees.

The University Council is a representative body consisting of the President, the Dean and the Secretary of the College, ex-officio, and the Dean and one elected member from each of the faculties of the University. Subject to the reserved power of control by the Trustees, the University Council has charge of the general educational interests of the University and of all matters affecting more than one faculty.

Columbia University includes both a College and a University.

I. THE COLLEGE

The College offers a course of four years, leading to the degree of Bachelor of Arts. Candidates for admission to the College must be at least fifteen years of age, and pass an examination on prescribed subjects. The curriculum offers a wide range of electives, both literary and scientific, making it possible for the student to elect such courses during his first three years as will fit him either for the professional course he may intend to pursue, or for advanced work under any of the non-professional faculties. During the senior year the student may study under any of the faculties of the University.

The degree of Bachelor of Arts is conferred upon graduates of Columbia College and of Barnard College, upon the recommendation of the Faculty of Columbia College.

II. THE UNIVERSITY

In a technical sense, the Faculties of Law, Medicine, Philosophy, Political Science, Pure Science, and Applied Science, taken together, constitute the University. These faculties offer advanced courses of study and investigation, respectively, in (*a*) private or municipal law, (*b*) medicine, (*c*) philosophy, philology, and letters, (*d*) history, economics, and public law, (*e*) mathematics and natural science, and (*f*) applied science. Courses of study under all of these faculties are open to members of the senior class in the College and also to all students who have successfully pursued an equivalent course of undergraduate study to the close of the junior year. These courses lead, through the bachelor's degree, to the university degrees of Master of Arts and Doctor of Philosophy. The degree of Master of Laws is also conferred for advanced work in law done under the Faculties of Law and Political Science together.

A. The Non-Professional Schools

THE FACULTY OF PHILOSOPHY offers advanced courses and opportunities for original research in philosophy and education, psychology, Greek and Latin (including Archæology and Epigraphy), English, literature, music, and the Germanic, the Romance, and the Oriental Languages.

THE FACULTY OF POLITICAL SCIENCE offers advanced courses and opportunities for original research in political and social science, including history, economics, and public law.

THE FACULTY OF PURE SCIENCE offers advanced courses and opportunities for original research in mathematics, mechanics, astronomy, physics, chemistry, mineralogy, geology, zoölogy, botany, physiology, anatomy, and bacteriology.

THE FACULTY OF APPLIED SCIENCE offers advanced courses and opportunities for original research in mining, metallurgy, engineering (civil, electrical, mechanical, and sanitary), and architecture.

B. The Professional Schools

THE FACULTIES OF LAW, MEDICINE, AND APPLIED SCIENCE conduct, respectively, the professional schools of Law, Medicine, and Mines, Chemistry, Engineering, and Architecture, to which students are admitted as candidates for professional degrees on terms prescribed by the faculties concerned.

THE SCHOOL OF LAW, established in 1858, offers a course of three years in the principles and practice of private and public law, leading to the degree of Bachelor of Laws.

THE COLLEGE OF PHYSICIANS AND SURGEONS, founded in 1807, offers a course of four years in the principles and practice of medicine and surgery, leading to the degree of Doctor of Medicine.

THE SCHOOL OF MINES, established in 1864, offers courses of study, each of four years, leading to a professional degree, in mining engineering and in metallurgy.

THE SCHOOLS OF CHEMISTRY, ENGINEERING, AND ARCHITECTURE, set off from the School of Mines in 1896, offer, respectively, courses of study, each of

four years, leading to an appropriate professional degree, in analytical and applied chemistry; in civil, sanitary, electrical, and mechanical engineering, and in architecture.

TEACHERS COLLEGE offers courses in the History and Philosophy of Education and the Theory and Practice of Teaching, leading to appropriate diplomas. It takes academic rank in the University system as a professional school for teachers.

C. Affiliated Colleges

BARNARD COLLEGE, a college for women, founded in 1889, is also included in the educational system of Columbia University, and its educational work is under the jurisdiction of the University. It is an independent corporation, but, by agreement with the University, its curriculum is prescribed and its examinations are conducted by the University. Its educational work is conducted either by instructors of Columbia University or by instructors appointed with the approval of the President of the University. The requirements for admission and the standard of scholarship are the same as in Columbia College, and its graduates receive the degrees of Columbia University. Students of Barnard College may attend certain advanced courses in the University, but the undergraduates as a body receive their instruction in Barnard College.

TEACHERS COLLEGE, founded in 1888 and chartered in 1889, was included in the University in 1898. It is still an independent corporation, its trustees continuing to assume the entire financial responsibility for its maintenance. Its four-year courses lead to the Teachers College diploma in Elementary and in Kindergarten teaching; its two-year courses, to the diploma in Fine Arts, Domestic Art, Domestic Science, and Manual Training. A one-year course for college graduates leads to the diploma in Secondary Teaching. Under certain conditions, seniors in Columbia College or Barnard College may obtain the secondary diploma at the time of receiving the first degree. Graduate courses lead to the Higher Diploma; and all courses in the Teachers College Department of Education may be counted toward the degree of Bachelor of Arts, Master of Arts, or Doctor of Philosophy.

The division of the University into faculties and schools neither controls nor limits the student in his freedom of electing, under one or several of the faculties, courses that lead to the university degrees of Master of Arts and Doctor of Philosophy. The degree of Master of Laws is also a university degree, but for this degree the choice of the student is restricted to subjects under the two Faculties of Law and Political Science. All of these degrees are granted upon the recommendation of the University Council.

The professional degrees are Bachelor of Laws, Doctor of Medicine, Bachelor of Science, Engineer of Mines, Metallurgical Engineer, Civil Engineer, Electrical Engineer, and Mechanical Engineer. These degrees are conferred upon the recommendation of the Faculties of Law, Medicine, and Applied Science, respectively.

The degrees of Doctor of Laws, Doctor of Sacred Theology, and Doctor of Letters are conferred *honoris causa* by the Trustees at their discretion.

In addition to the opportunities for research and investigation afforded to students by the libraries, museums, and manufacturing establishments of New York City, the University, by special agreement, is able to offer to its students certain privileges, free from additional charge, in the Union Theological Seminary, the Metropolitan Museum of Art, the American Museum of Natural History, and the New York Botanical Garden.

The principal administrative officers, other than the President, are the deans of the several faculties, the Secretary of the University, the Librarian, the Bursar, and the Superintendent of Buildings and Grounds.

In the following pages will be found a statement of the method of entering the University, the cost of tuition, the endowments for the benefit of students, a statement of the special funds held by the Trustees, and the privileges open to students in affiliated institutions.

The scope of instruction given in Columbia University is indicated broadly by the statements of the departments of instruction, which are given in alphabetical order, and in connection with each of which the courses offered for the current academic year are stated in detail, with a brief summary of the equipment of the department for the work it undertakes to do.

Following these details will be found:

The requirements for the university degrees,
The organization of the several schools, together with the requirements for the various degrees under the control of separate schools,
Statements concerning Barnard College, Teachers College, and the Summer Session,
The publications of the University,
Degrees conferred,
Lists of fellows, scholars, and honor men,
Directory of officers and students,
Calendar for the academic year.

The work of the University was begun at Morningside Heights, October 4, 1897.

ADMISSION

For the requirements for admission to the various schools of the University see Table of Contents.

COLUMBIA COLLEGE	SCHOOL OF POLITICAL SCIENCE
SCHOOL OF LAW	SCHOOL OF PHILOSOPHY
SCHOOL OF MEDICINE	SCHOOL OF PURE SCIENCE
SCHOOLS OF MINES, CHEMISTRY, ENGINEERING, AND ARCHITECTURE	BARNARD COLLEGE
	TEACHERS COLLEGE

Students entering the University for the first time must pay a matriculation fee of $5, and if an examination for entrance is required, such fee is payable before examination. All such students, after filling in the blank provided for the purpose by the dean of the proper faculty, and obtaining the signature of the dean thereto, are required to present the same to the Bursar with the proper fee. Students intending to pursue a partial course must secure from the dean of the proper faculty a certificate of the exact fee to be paid.

No student is permitted to attend any academic exercise until he has complied with the regulations in regard to matriculation and registration.

Students entering the Medical School pay their fees and register at the College of Physicians and Surgeons, 437 West 59th Street.

Communications for the President should be addressed to him at the University.

For catalogue, circulars, and detailed information, address the Secretary of the University.

The catalogue is published in December and is sold at twenty-five cents a copy.

The circulars of the various schools and departments are issued in the early spring and are distributed upon application.

Women

Certain courses under the Faculties of Philosophy, Political Science, and Pure Science are open to women who are students of Barnard College or Teachers College on the same terms as to men, except that only women who have the first degree are admitted to courses under the Faculty of Political Science.

Auditors

Certain courses of lectures are open to the public, men and women alike, on payment of an auditor's fee. No auditor will be admitted to any course without the consent of the instructor, previously obtained; auditors' tickets must be procured from the Bursar of the University, and shown to the instructors in charge of the courses for which they are issued.

Withdrawal

Students are requested, in case of withdrawal from the University, during the academic year, to notify the Bursar.

FEES

The regulations in regard to fees are as follows:

For Matriculation		$ 5
For Tuition:		
For candidates for a degree.		
* In the College	per annum	150
In the School of Law	"	150
In the College of Physicians and Surgeons	"	200
In the Schools of Mines, Chemistry, Engineering, and Architecture	"	200
In the School of Political Science	"	150
In the School of Philosophy	"	150
In the School of Pure Science	"	200

* Seniors taking the first year in the Medical School or in the Schools of Mines, Chemistry, Engineering, and Architecture pay the fee required in those schools, $200.

For candidates for the degrees of Master of Arts and Doctor of Philosophy per annum $150

The maximum fee for the degrees of Master of Arts and Doctor of Philosophy is respectively $150 and $300.

For students pursuing partial courses,
at the rate of $15 per annum for each hour of attendance per week on lectures or recitations, with a maximum fee of . . . 150
except that in the Schools of Pure Science and Applied Science the maximum fee is 200

For auditors,
at the rate of $20 per annum for each hour of attendance per week on lectures or recitations, with a maximum fee of . . . 200

For Examinations :

At unusual times	5
For the bachelor's degree (not professional or technical) . . .	15
For any professional or technical degree	25
For the degree of Master of Arts	25
For the degree of Doctor of Philosophy	35
For the degree of Master of Laws	25

For Use of the Gymnasium :

Each student is required to pay an annual gymnasium fee of . . 7

This entitles him to a locker and to the use of the Gymnasium and the baths including all necessary laundry service.

Special Fees :

In the College of Physicians and Surgeons.

Dissecting material, per "part" 1

For special students :

At the rate for each course of Didactic lectures in Anatomy ; Physiology ; Physics and Chemistry ; Materia Medica ; Therapeutics and Hygiene ; Obstetrics and the Diseases of Women ; Surgery ; Pathology and Practical Medicine, including the Diseases of the Mind and Nervous System	20
Dissection	10
Practical Chemistry including Chemicals and breakage, per course,	25
Laboratory course in pathology and pathological histology, including materials	25
Laboratory fee for special instruction in pathology, histology, or bacteriology, per month	25
Operative surgery on the cadaver, including material, per course .	20

For other special courses the fees must be specially arranged for with the instructors.

The clinical lectures at the Vanderbilt Clinic are free to matriculates who do not take the regular curriculum.

The public clinical lectures, and demonstrations of pathological anatomy, which are given at the hospitals by officers of the University, are free to all matriculates.

In the Schools of Mines, Chemistry, Engineering, and Architecture.

For graduate students:

For the use of the cabinets only	$25
For the use of the drawing academy only	25
For the use of the laboratories or either of them	50
For candidates for admission to advanced standing who attend the Summer School in Surveying	35

The President and Treasurer are authorized to determine the fees to be paid in special cases, for partial attendance, upon the basis of the fees hereinbefore specified.

Payment of Fees

The matriculation fee shall be paid before the entrance examination. Examination fees shall be paid in all cases before examination.

Annual tuition fees may be paid in equal installments at the beginning of each session of the academic year, except that whenever the total amount of a student's tuition fees shall not exceed one hundred dollars, the full amount shall be paid at the beginning of the academic year or at entrance.

No candidate for a degree in any school shall be entitled to receive the same until he shall have discharged all his dues to the University.

Students who have taken the degree of Doctor of Philosophy in this University may, with the consent of the University Council, continue their researches in the laboratories or library of the University without the payment of tuition fees.

Fellows

Fellows are exempt from the payment of all fees during the present academic year. From and after July 1, 1900, they will be required to pay all fees.

Scholars

Holders of Scholarships, with few exceptions, are required to pay all fees.

Comparative Statement of Students' Expenses for the Academic Year, October to June

BASED ON STUDENTS' STATEMENTS

	Low	Average	Liberal
Matriculation Fee (First Year)	$ 5	$ 5	$ 5
Tuition Fee	150	150	150
Gymnasium Fee	7	7	7
Books	15	30	40 up
College Incidentals	—	15	50 "
Room (32 weeks)	48	112	160 "
Board (32 weeks)	112	128	192 "
Clothes and Washing	35	75	125 "
All other Expenses	15	25	100 "
Total	$387	$547	$829 up

In the case of students in the Schools of Medicine, Applied Science, and Pure Science, $50 for tuition should be added, the fee in those schools being $200.

COMMITTEE ON EMPLOYMENT FOR STUDENTS

The University Council has constituted a Standing Committee on Employment for Students, consisting at present of the following members:

JAMES F. KEMP.....*Faculty of Pure Science, Chairman*
THOMAS S. FISKE.....*Faculty of the College*
GEORGE S. HUNTINGTON.....*Faculty of Medicine*
FRANCIS M. BURDICK.....*Faculty of Law*
FREDERICK R. HUTTON.....*Faculty of Applied Science*
FRANKLIN H. GIDDINGS.....*Faculty of Political Science*
HENRY A. TODD.....*Faculty of Philosophy*
ALBERT BRITT.....*Secretary*

It is the design of the Committee to put students, desiring to work their way through college, especially those coming from elsewhere than New York or the immediate vicinity, in the way of earning enough for their partial or complete support, or if possible to extend assistance to them in other ways, while they are pursuing their studies here. It is believed that many opportunities may be offered to students of this class if the fact of their desire to obtain employment is made known. Some of the openings likely to be available are: private tutoring, translating, copying of various sorts, teaching in evening schools, travelling companions, stenography, and typewriting. All communications should be addressed to the Committee.

All the heads of clinics in the Medical School have consented to give advice without charge to students who present cards of introduction from the Committee. Such visitors are received as a general rule during office hours at private offices. This insures to students who need it, the best medical advice in the city.

APPOINTMENT COMMITTEE

The Appointment Committee instituted by authority of a resolution of the University Council, passed April 19, 1898, consists at present of the following members:

NICHOLAS MURRAY BUTLER, Ph.D., LL.D.....*Chairman*
Professor of Philosophy and Education
FREDERICK REMSEN HUTTON, E.M., Ph.D.
Professor of Mechanical Engineering
EDWIN ROBERT ANDERSON SELIGMAN, Ph.D.
Professor of Political Economy and Finance
JAMES MCKEEN CATTELL, Ph.D.....*Professor of Psychology*
HENRY ALFRED TODD, Ph.D.....*Professor of Romance Philology*
GEORGE WILLIAM KIRCHWEY, A.B.....*Professor of Law*
GEORGE RICE CARPENTER, A.B.,
Professor of Rhetoric and English Composition
JAMES RIGNALL WHEELER, Ph. D.....*Professor of Greek*
CALVIN THOMAS, A.M.,
Gebhard Professor of the Germanic Languages and Literatures
FRANK MORTON MCMURRY, Ph.D.,
Professor of the Theory and Practice of Teaching

The duty of the Committee is to recommend graduates of the College or University for teaching or other positions, and to assist competent graduates to obtain such positions.

The Committee keep classified lists of those who wish employment, and will be glad to be informed promptly of present or prospective vacancies in positions for which college-trained men or women are eligible.

No fees are charged for any service rendered by the Committee.

Communications in regard to vacancies and recommendations of suitable candidates for the same should be addressed to the Chairman of the Appointment Committee, Room 420, Library, Columbia University, New York.

FELLOWSHIPS, SCHOLARSHIPS, AND OTHER PROVISION FOR THE ASSISTANCE OF STUDENTS

University Fellowships

Beginning with the award for 1900–1901, eighteen fellowships, of the value of $650 each, known as "University Fellowships," will be awarded by the Council to those applicants who give evidence of special fitness to pursue courses of higher study and original investigation, the competition to be open to graduates of all colleges and scientific schools. Vacancies occurring in any such fellowships shall be filled in the same manner in which original appointments are made.

Additional university fellows may be appointed in cases where the original appointee waives the emolument of the fellowship while accepting the honor of the appointment, and in cases where a university fellow desires reappointment without emolument.

Application should be made prior to March 1, in writing on blanks that will be furnished for the purpose and addressed to the President of Columbia University. Applications received later than March 1 may fail of consideration. The term of the fellowship is one year, dating from July 1. Residence should begin October 1.

The candidate must give evidence

(*a*) of a liberal education, such as a diploma already granted, or about to be received from a college or scientific school of good repute;

(*b*) of decided fitness for a special line of study, such as an example of some scientific or literary work already performed;

(*c*) of upright character, such as a testimonial from some instructor.

Every holder of a fellowship will be expected to perform such duties as may be allotted to him in connection with his course of study, which course shall be such as to lead to the degree of Doctor of Philosophy. He will be expected to devote his time to the prosecution of special studies under the direction of the head of the department to which he belongs, and before the close of the academic year to give evidence of progress by the preparation of a thesis, the completion of a research, the delivery of a lecture, or by some other method. He must reside in New York or vicinity during the academic year.

No holder of a fellowship will be permitted to pursue a professional or technical course of study during his term. With the written approval of the President, but not otherwise, he may give instruction or assistance in any department of the University.

A fellow may be reappointed at the end of a year for reasons of weight. No fellow may be reappointed for more than two terms of one year each.

As these fellowships are awarded as honors, those who are disposed, for the benefit of others or for any other reason, to waive the pecuniary emolument may do so, and still have their names retained on the list of fellows.

Tyndall Fellowship

A fellowship known as the "John Tyndall Fellowship for the Encouragement of Research in Physics" was endowed by John Tyndall, LL.D., Professor of Natural History in the Royal Institution of Great Britain, November 2, 1885, by a gift of $10,945.50 in trust, to apply the income in supporting or assisting "one or more American pupils who may have shown decided talents in physics, and preferably such as shall express the determination to devote their lives to the advancement of theoretic science and original investigations in that department of learning." This fellowship is awarded to some suitable person, who is either a graduate of or a student in the University, but not necessarily a candidate for a degree. Such fellow shall be appointed by the Council upon the recommendation of the head of the department of Physics. Such appointments shall always be for the term of one year only, but the fellow for the time being shall be eligible for appointment from year to year, upon like recommendation. The fellow so appointed shall be entitled to receive during his term of office the net income of the capital sum constituting the endowment, to be paid in four quarterly installments on the usual quarter days, upon the certificate of the President; and the Trustees guarantee that such net income will amount to at least $648 a year, being six per cent. upon $10,800, the fund presented to the University by Professor Tyndall.

Barnard Fellowship

A fellowship known as the "Barnard Fellowship for Encouraging Scientific Research" was endowed by the bequest of $10,000 left by President F. A. P. Barnard for the purpose of encouraging scientific research. The fellowship is of the annual value of $500, and is awarded to a graduate of the College or of the Schools of Mines, Chemistry, Engineering, or Architecture, who has evinced decided aptness for physical investigation and who may be disposed to devote himself to such investigation for some years continuously. Such fellow shall be appointed by the Council upon the joint recommendation of the faculties of the College and Applied Science. Such appointment shall be for the term of one year only, but the fellow, for the time being, shall be eligible to reappointment from year to year upon like joint recommendation. Nominations should be made to the President on or before April 1.

Duties of Tyndall and Barnard Fellows

It is the duty of a Barnard or John Tyndall fellow to devote himself faithfully to the investigation of some subject in physical science at this University, or at some other in this country or abroad, under the supervision of some known physicist approved by the President and the head of the department of Physics. He shall make a report quarterly to the President, giving an account of the work in which he has been engaged during the three months preceding; which

report shall be certified by the physicist superintending and directing him. In case of failure faithfully to fulfil the obligations imposed upon him, such fellow shall forfeit all privileges and emoluments conferred upon him by his appointment to the fellowship, and the Council may at any time declare the fellowship to be vacant.

Drisler Fellowship

A fellowship known as the "Henry Drisler Fellowship in Classical Philology," of the annual value of $500, was established in 1894 in commemoration of the semi-centennial in the service of the University of Henry Drisler, LL.D., of the Class of 1839, who held in the University the chairs of both Latin and Greek.

Applicants for this fellowship must be Bachelors of Arts of this University, or some other college or university of equivalent standing, and must have pursued the study of Greek and Latin throughout their undergraduate course. They must present testimonials from their instructors in Greek and Latin as to their zeal and success in the study of these languages, and must give evidence of fitness for a wider and more profound study of the same, and for independent research. Such evidence may be shown by the results of a special examination, or by the production of an essay or published treatise in some department of classical study. Applicants must also have a sufficient knowledge of French and German to use those languages readily in the prosecution of their studies, and must present a certificate of good moral character.

The appointment to the fellowship will be made by the University Council on the joint recommendation of the professors of Greek and Latin. The appointment shall be for one year, and the holder, for reasons of weight, may be reappointed; but the fellowship shall not be held by the same person for more than three years.

The fellow must study at this University under the direction of the professors of Greek and Latin, unless permitted by the Council to spend a year in some foreign university, or in the American School of Classical Studies at Athens.

Class of '70 Fellowship

There is a fellowship known as the "Class of '70 Fellowship," of the annual value of $500, which, after the expiration of the term of the present incumbent, shall be filled by the Council, and shall be subject to such rules and regulations, not inconsistent with the Statutes, as may be prescribed by the Council.

Annual Fellowships

The Treasurer may receive gifts of money for fellowships to run for one year or more, provided that no fellowship shall be created for less than $500 per annum. Such fellowship shall be filled by the University Council, and shall be subject to such rules and regulations, not inconsistent with the Statutes, as may be prescribed by the Council.

University Scholarships

Thirty university scholarships are awarded annually to students under the Faculties of Political Science, Philosophy, and Pure Science. These scholarships

are awarded under the following regulations, prepared by the authority of the University Council and with its approval:

1. The university scholarships are open to all graduates of colleges and scientific schools whose course of study has been such as to entitle them to be enrolled at Columbia as candidates for a university degree.

2. These scholarships are tenable for one academic year, with a possibility of renewal for one year longer. They are of an annual value of $150 each.

3. Payments will be made to university scholars in two equal installments; one on October 1 and one on February 1. University scholars will be required to pay all of the fees established for matriculation, tuition, graduation, and for the use of the Gymnasium.

4. Applications for university scholarships should be made in writing, on blanks that will be furnished for the purpose, and addressed to the President of Columbia University. Applications must be filed not later than May 1. Should an unsuccessful applicant for a fellowship apply for a scholarship, the only information required from him will be that contained in the formal application for the fellowship.

5. The university scholarships will be awarded by the University Council at its regular meeting in May. The award will be made after applications have been examined and recommendations made by the Committee on University Scholarships. In making these recommendations the Committee will give preference to those candidates for university fellowships who have failed of appointment by the University Council after having been recommended for the same by any faculty or department.

6. University scholars will be required to enroll themselves as candidates for a degree and to pursue a regular course of study leading thereto.

President's University Scholarships

In addition to the University scholarships, there are eight scholarships, each of the annual value of $150, known as the "President's University Scholarships." Such scholarships are for the term of one year, are filled by the University Council, and are governed in all respects by the regulations attached to the University scholarships established by the preceding section, and by such further regulations as may from time to time be hereafter adopted by the Trustees. The holders of such scholarships may be reappointed upon the expiration of their terms upon such conditions as may be prescribed in the regulations. In case any one of said scholarships is not awarded in any year, or in case any scholarship shall become vacant otherwise than by the graduation of the incumbent, an additional scholar may be appointed to fill such vacancy. The recipient of any such scholarship may, with the consent of the President, assign the income thereof to any properly qualified candidate without waiving his right to be designated as a President's University Scholar.

Pulitzer Scholarships

In 1893, the Hon. Joseph Pulitzer established a fund of $100,000 to enable deserving graduates of the New York City grammar schools to obtain a high-school preparation for college through the agency of Columbia College. Ten

students a year are selected by competition for the Horace Mann School of Teachers College, and these students as they are qualified for work in the University are given free tuition for four years either in the College or in any of the schools except the Medical School. During the entire term of their high-school and college or university course, each of these students receives from Mr. Pulitzer the sum of $250 per annum. For details in relation to the competition for these scholarships, address the Principal of the Horace Mann School, 120th Street, Morningside Heights, New York City.

National Society of the Sons of the American Revolution Medal

The National Society of the Sons of the American Revolution offers a silver medal under the following regulations:

1. Competition shall be open to members of the Senior class in the College, and to first-year students, not graduates of the College, studying under any of the faculties of the University.

2. Each essay must contain not less than 1600 and not more than 2000 words and shall be upon the subject: "The Principles Fought for in the War of the Revolution."

3. A typewritten copy of each essay must be presented to the President not later than May 1.

4. The Committee of Award shall consist of the professors giving instruction in American History.

5. The prize shall in no case be awarded to an essay defective in English composition.

The award, if made, will be announced by the President at Commencement.

A similar tender has been made to the principal colleges of the country, and the essays receiving the silver medals will be submitted to a committee of the National Society in competition for a gold medal to be awarded to the writer of the essay deemed most meritorious.

Annual Scholarships

The Treasurer may receive gifts of money for scholarships for one or more years, provided that no such scholarship shall be for a less sum than the annual tuition fee of the College or of the school in which it is provided. Such scholarships shall be filled by the Faculty under whose care they properly come, and the scholars holding them shall pay all fees.

Bunner Medal

The H. C. Bunner Gold Medal, provided for by the interest upon a fund of one thousand dollars, established in November, 1896, by the friends of the late Henry Cuyler Bunner, is awarded annually at Commencement to the candidate for a Columbia degree who shall present the best essay on an assigned subject in American literature. Essays must be submitted to the President on or before May 1. The award will be made by a committee to be appointed by the President. The subject for the essay to be handed in May 1, 1900, is "The American Indian in American Poetry"; for 1901, "American Humor Prior to 1870"; for 1902, "Abraham Lincoln as a Man of Letters."

The College

The following scholarships, of the annual value of $150 each, are offered in the College. The holders of the scholarships pay the tuition fee and all other fees. There is open also to students of the College, upon certain conditions, one scholarship in the General Theological Seminary.

Alumni Competitive Scholarships..... 4
Founded by the Trustees in 1890. One is awarded annually to the student passing the best entrance examination to the Freshman class, and is tenable for one year. Reappointment may be made under certain conditions for succeeding years.

Brooklyn Scholarships.....12
Founded by the Trustees in 1895, in recognition of the gift to the University by President Low of a memorial building for the University Library; they are open for competition to candidates for admission to the College who are residents of Brooklyn, and have received their training in either the public or the private schools of that borough. Three of these scholarships are awarded annually to the three qualified competitors who are examined at the College in June, and pass complete entrance examinations in all subjects. The papers of the competitors who pass without conditions are examined by the Committee on Admissions ; and the three students whose papers as a whole are entitled to the highest rank receive the scholarships.

Hewitt and Harper Scholarships..... 4
Two known as the "Hewitt Scholarships," endowed by the gift of Abram S. Hewitt, LL.D., Class of '42, and two known as the "Harper Scholarships," endowed by the bequest of Joseph W. Harper, A.M., Class of '48, are open for competition to graduates of the New York City High Schools.

Beck Scholarship..... 1
Founded by the Trustees in 1899, in recognition of the liberality of Charles Bathgate Beck, LL.B., of the Class of '77. — 21

Faculty Scholarships

Ten Faculty Scholarships established by the Trustees for award by the Faculty to students whose record for ability and scholarship, obtained either before or after matriculation, gives evidence of special fitness for the course of study which they propose to pursue, and who need pecuniary aid to obtain an education. Open to students of any class..... 10

Endowed Scholarships

Schermerhorn Scholarships..... 5
Endowed by John Jones Schermerhorn, A.B., of the Class of '25. Open to Freshmen only.

Moffat Scholarships..... 2
Endowed by William B. Moffat, A.B., of the Class of '38 ; M.D., '42. Open to Freshmen only.

Stuart Scholarships 2
Endowed in memory of Sidney Barculo Stuart, Class of '80, and Eugene Talman Stuart, Class of '81, by their grandmother, Cornelia A. Atwill. Open to Freshmen only.

Alumni Association Scholarships 4
Established by the Trustees in recognition of the interest that the Alumni Association has always shown in the affairs of the College. Open to Freshmen only.

Society for Promoting Religion and Learning Scholarships 8
Founded by the Society for Promoting Religion and Learning and awarded upon the nomination of that Society. Two students in each class. — 21

Benefactors Scholarships

Morgan Scholarships 5
Vanderbilt Scholarships 5
A. A. Low Scholarships 3
Cutting Scholarships 2
Clark Scholarships 2
Sloan Scholarship 1
Parish Scholarship 1
Schiff Scholarship 1
— 20

Established by the Trustees in 1899 in recognition of the liberal gifts for the purchase of the site on Morningside Heights received from J. Pierpont Morgan, Cornelius Vanderbilt, A. A. Low, R. Fulton Cutting, Alfred Corning Clark, Samuel Sloan, Henry Parish, Jacob H. Schiff, and others, designated collectively as "Benefactors Scholarships," of which the above have been assigned to the College. Open to students who have been not less than one year in the College. — 72

Scholarship in the General Theological Seminary

The scholarship in the General Theological Seminary of the Protestant Episcopal Church (heretofore placed at the disposal of the Trustees of Columbia University by the Society for Promoting Religion and Learning in the State of New York) is awarded upon the following conditions, to wit:

(*a*) All candidates shall comply with the requirements for admission to the General Theological Seminary as candidates for the ministry of the Protestant Episcopal Church, and must have taken the degree of Bachelor of Arts and have graduated with honors.

(*b*) All candidates shall report themselves to the Educational Committee of such Society at least three months previous to the examination to be held by the Faculty for the purpose of awarding such scholarship. 1

Purpose of Scholarships

Scholarships are intended to be academic honors. By the regulations, scholars are divided into three groups. Groups 1 and 2 are confined to students whose work entitles them to academic distinction ; Group 3 comprises meritorious students with some special claim to consideration. Students who do not need pecuniary aid receive Highest General Honors or General Honors on the same basis of academic distinction as leads, in the case of scholarships, to a place in Group 1 or 2 respectively.

Rules Governing the Award of College Scholarships

The award of scholarships is made by the Committee on Scholarships.

1. *Scholarships Awarded to Students who have been in Residence at least One Year :* Twenty Benefactors Scholarships, three Alumni Competitive Scholarships, nine Brooklyn Scholarships, and three Hewitt or Harper Scholarships may be assigned each year to students who have been in residence for at least one year. The award is, in Groups 1 and 2 (see Section 6, page 28), based on the rank attained by the candidates in the work of the previous year.
2. *Scholarships Awarded to Students in their First Year of Residence :* The five Schermerhorn, two Moffat, two Stuart, and four Alumni Association Scholarships are assigned to candidates entering the Freshman class of the College, either before or after entrance, and are tenable for the Freshman year only. To secure such an award before entrance, the candidate must be strongly recommended by the college, academy, or school with which he has been connected, and must have passed satisfactory entrance examinations. To secure such an award after entrance, he must have similar recommendations, have passed satisfactory entrance examinations, and, in general, have shown marked proficiency in his college work or marked promise of future usefulness.
3. *Competitive Scholarships Awarded to Freshmen at Entrance :* One Alumni Competitive Scholarship, three Brooklyn Scholarships, and one Hewitt or Harper Scholarship are awarded each year to Freshmen at entrance on competition, under the conditions described in the special regulations for the award of these scholarships.
4. *Faculty Scholarships*, ten in number, and the one Beck Scholarship, eleven in all, may be awarded to students in their first year of residence, or to students who have been in residence at least one year, at the discretion of the Committee on Scholarships. In their award, the general regulations applicable to the group in which they are awarded must be observed.
5. *Conditions Governing the Award of Scholarships :* Students not in need of aid can not be considered as applicants. Scholarships will not be assigned to candidates who, through physical, mental, or moral weakness, give little promise of future usefulness.

 The enjoyment of a scholarship for one year does not constitute a title to a second nomination. No student who has incurred serious academic censure in the course of the year will be considered a candidate, nor any

student who obtains leave of absence for the year in which the scholarship would be payable. The payment of one or both installments of the scholarship may be withheld if a student proves undeserving.

6. *Classification of Scholarships:* The holders of scholarships are divided into three groups. The first group contains only those whose work entitles them to high academic distinction. The second group consists of students of marked excellence who have not attained a position in the first group. The third group comprises meritorious students to whom scholarships have been awarded on grounds of special claim.

 The names of holders of scholarships in groups 1 and 2 will be published in the University Catalogue.

7. *Time of Application:* Candidates under Section 1 should make application to the Committee on Scholarships on or before May 1. Candidates under Section 2 should make application to the same Committee as early as May 1 if they desire to secure an award at entrance, or not later than November 15 if they desire to secure an award after entrance. Forms of application may be obtained of the Bursar.

8. *Time of Award:* Scholarships under Section 1 are awarded not later than July 1. Scholarships under Section 2 are awarded not later than July 1 in the case of candidates who secure an award at entrance, and, in general, not later than December 1 in the case of candidates who secure an award after entrance.

 Scholarships becoming vacant may be filled at the discretion of the Committee.

9. *Time of Payment:* Scholarship stipends are paid in two installments, one at the beginning of each half-year. Payment of stipends under Section 2 may, however, be made, when necessary, at other times.

Prize of the Alumni Association

A prize of fifty dollars in money or its equivalent, at the option of the receiver, established by the Association of the Alumni of Columbia College, was first awarded at Commencement in June, 1858. It is given "to the most faithful and deserving student of the graduating class."

Three names are selected by the faculty and submitted to the class, who from these three designate one to receive the prize. Should the class at any time fail to make the selection, and give notice thereof to the President of the University at least ten days prior to the day appointed for Commencement, the selection of the student to receive the prize may be made by the faculty.

General Theological Seminary Prizes

Two Annual Seminary Prizes were founded in November, 1851, by the Rev. Dr. John McVickar, through the Society for Promoting Religion and Learning, and for which an endowment of $1000 is provided on the following conditions:

1. The first, to be entitled "The Society's Greek Seminary Prize of Thirty Dollars," to be annually competed for among such members of the graduating class as shall have given in their names to the President, at least one month

previous to such competition, as candidates for the General Theological Seminary of the Protestant Episcopal Church, each student giving in his name as competitor to designate the prize for which he contends, and to be confined to the choice then made. The examination for such prize to be held publicly in the chapel, and separate from the general examination. To be on :

a. The Epistles of the New Testament (in Greek) "ad aperturam libri "

b. On some one of the early Greek Fathers, to be designated at the time of noticing the prize, or, if none be designated, then upon some portion of Chrysostom or Athanasius, at the choice of the student.

The decision to be with the President and the Professor of Greek.

2. The second, to be entitled "The Society's English Seminary Prize of Twenty Dollars," to be annually competed for as before, and to consist in the production of an essay (to be publicly read or not, as the President may determine), of the ordinary length of a pulpit discourse, on some subject connected with the course of evidences on which the class has been engaged ; such subject to be selected by the professor of the evidences, and given out by him at the time of notice; and the prize to be adjudged as before, by the President and the professor of that branch ; such decision to have respect to

a. The general ability and soundness of the essay.

b. Its logical and demonstrative form ; and

c. The pure Saxon style and idiom in which it is written.

The names of the successful candidates to be enrolled in a suitable book to be provided for that purpose, lettered appropriately, and kept on the library table ; to be announced with other honors on Commencement Day, and also recorded honorably in the Society's books.

Chanler Historical Prize

In 1877, J. Winthrop Chanler, A.B., '47, bequeathed "to the Trustees of Columbia College in the City of New York the sum of $1000, to be invested and kept invested, and the income thereof to be given annually, on Commencement Day, to the undergraduate member of the Senior class of said College who shall be the author of the best original manuscript essay in English prose on the history of civil government in America, or some other historical subject, the same to be determined by the judgment and decision of the faculty of said College." The bequest became available in 1879.

The competitive essays must be handed to the President on or before May 1.

School of Law

Twenty-one scholarships of the annual value of $150 each are available annually for award to meritorious students in the School of Law standing in need of pecuniary aid, as follows :

Benefactors Scholarships

Eight Morgan and eight Vanderbilt Scholarships, known as Benefactors Scholarships, may be awarded to students who have been in the school for at least one year and whose record for ability and scholarship gives evidence of special fitness for the work of the school.

Faculty Scholarships

Four Faculty Scholarships of the annual value of $150 each may be awarded to members of any class who are college graduates and whose record for ability and scholarship, obtained either before or after matriculation, gives evidence of special fitness for the work of the school.

Beck Prize Scholarship

A scholarship, known as the "Charles Bathgate Beck Prize Scholarship," is awarded annually to the member of the First-year class in the Law School who having given evidence of special fitness for ability and scholarship shall pass the best examination in the subjects of the Law School course relating to Real Estate Law. The holder of such scholarship shall, provided he remains a member of the school, receive one year's income of the prize fund established by the will of Charles Bathgate Beck, in equal semi-annual installments, during the two years following the award. In the event of two or more students passing examinations of equal merit, the income of the fund may be subdivided.

Applications should be made in writing, on blanks which will be furnished for the purpose by the Bursar, and should be addressed to the Dean of the school. Application should be made not later than May 1.

The scholarships will be awarded by the faculty at its meeting in June, immediately preceding Commencement. Scholarships not allotted at the June meeting, or becoming vacant, may be filled by the faculty at its discretion.

Scholarships will be awarded only to applicants intending to complete the course.

One-half the annual value of the scholarships will be paid at the opening of the academic year, and one-half at the beginning of the second half-year.

College of Physicians and Surgeons

Fellowships of the Alumni Association

In June, 1891, the Trustees, at the request of the Alumni Association of the College of Physicians and Surgeons, established three fellowships to be known as the "Fellowships of the Alumni Association of the College of Physicians and Surgeons," the provision for which is made annually by the Association.

These fellowships are open to graduates of the College of Physicians and Surgeons who have shown special aptitude for scientific research in the departments of anatomy, physiology, or pathology. They are held for a period of two years, and have an annual value of $500 each. The appointments to these fellowships are made by the Executive Committee of the Alumni Association from candidates presented to them by the Professor of Anatomy, the Professor of Physiology, and the Professor of Pathology.

The persons appointed to these fellowships are expected to devote themselves to scientific research in the department which they may elect, in this country, either in the schools of Columbia University, where they enjoy free tuition and the privileges of the laboratories, or in other institutions at their own expense. At the end of two years the holders of these fellowships are expected to present to the Association a thesis containing evidence of independent or original work in their special department.

Proudfit Fellowship in Medicine

A fellowship known as the "Maria McLean Proudfit Fellowship," founded by the bequest of Alexander Moncrief Proudfit, of the Class of '92, for the encouragement of advanced studies in medicine, is open to all persons who, being the sons of native-born American parents, shall pursue advanced studies in internal medicine under the direction of the Medical Faculty of the University, and who shall, while enjoying such fellowship, remain unmarried. Such Fellow shall be a graduate in medicine and shall be appointed by the University Council upon the recommendation of the Faculty of Medicine. Such appointment shall be made every four years upon terms to be designated by the Faculty. A vacancy may be filled for any unexpired term. The Fellow so appointed shall be entitled to receive, during his incumbency, the net income of the capital sum constituting the endowment of such fellowship. He shall carry on his studies and research at Columbia University, or elsewhere, under the direction of the Faculty of Medicine.

Alonzo Clark Scholarship

By the will of the late Alonzo Clark, M.D., LL.D., for many years President of the College of Physicians and Surgeons, and Professor of Pathology and Practical Medicine, it has been placed in the power of the Medical Faculty to bestow a scholarship, with an income of about $700 a year, for the purpose of promoting the discovery of new facts in medical science.

Harsen Prizes for Clinical Reports

Three annual prizes, founded in 1859, by the late Jacob Harsen, M.D., who was graduated from the College in 1825 and from the College of Physicians and Surgeons in 1829, are offered for the three best reports, in writing, by students of the Medical School, of the clinical instruction given at the New York Hospital during any four consecutive months of the year which ends on Commencement Day.

These reports must embrace the clinical teaching of both the visiting physician and the visiting surgeon on duty.

Each report must be designated by a device or motto, and must be accompanied by a sealed envelope, bearing the same device or motto, and containing the name and address of the author.

The prizes are as follows:

A first prize of $150; a second prize of $75; a third prize of $25.

A "Harsen Prize Medal" and a diploma are given with each prize.

Harsen Prizes for Proficiency at Examination

In consequence of the great increase in value of the Harsen Prize Fund, in addition to the three prizes above mentioned, there are awarded three Harsen prizes for proficiency at examination, viz.:

A first prize of $500; a second prize of $300; a third prize of $200.

The award of these prizes is made as follows:

The ten members of each graduating class who, at their examination for the degree of Doctor of Medicine, have shown the highest proficiency in all the

branches combined, receive each a diploma of "Examination Honors" and are entitled to take part in special competitive examinations, the three most meritorious competitors at which receive the first, second, and third prizes, respectively.

The competitive examinations consist :

1. Of an examination in writing, covering *all the branches* of medical teaching.

2. Of an examination upon the cadaver in *practical anatomy*, conducted by the Professor of Anatomy.

3. Of practical examinations in *clinical medicine* and *clinical surgery*, conducted at the hospitals by the Professors of Medicine and Surgery, respectively.

The relative merits of the competitors are decided, and the award of the prizes made, by a committee of three judges, consisting of the Dean of the College of Physicians and Surgeons, the President of the Association of the Alumni of the same, and a resident alumnus selected by them.

Alumni Association Prize

The Alumni Association Prize is a biennial prize of $500 open for competition to the alumni of the College of Physicians and Surgeons. It is awarded for the best medical essay submitted upon any subject the writer may select, and is open to competition in alternate years with the Cartwright Prize.

If no one of the competing essays be deemed sufficiently meritorious, the prize is not awarded.

An essay in order to be held worthy of the prize must contain the result of original investigation made by the writer.

This prize is not awarded to any essay which is the work of more than one author, or which is at the same time submitted for another prize. Each competitor is required to send with his essay to the Prize Committee a statement that these requirements have been complied with.

Essays in competition for the prize to be awarded at Commencement, 1900, must be sent to the Secretary of the Alumni Association of the College of Physicians and Surgeons on or before April 1, 1900.

Competing essays must each be marked with a device or motto, and accompanied by a sealed envelope, similarly marked, containing the name and address of the author.

Cartwright Prize of the Alumni Association

The Cartwright Prize was endowed by a bequest of $10,000 left by Benjamin Cartwright and consists of $500, and is offered for competition in alternate years with the Alumni Association Prize.

It is awarded on the same terms as the latter, except that it is open to universal competition. Essays in competition for the prize to be awarded at Commencement, 1901, must be sent to the Secretary of the Alumni Association on or before April 1, 1901.

Stevens Triennial Prize

The Stevens Triennial Prize was established by the late Alexander Hodgdon Stevens, M.D., formerly President of the College of Physicians and Surgeons, on the following plan :

The prize, awarded triennially, consists of the interest yielded by the principal fund during three years, and amounts to $200.

The administration of the prize is entrusted to a commission, consisting of the Dean of the Medical Faculty (*ex-officio*), the President of the Alumni Association of the College of Physicians and Surgeons (*ex-officio*), and the Professor of Physiology (*ex-officio*) in the same institution.

The prize is awarded to no essay unless it is sufficiently meritorious and includes the results of original research by the writer upon the subject chosen.

The competing essays must be sent in to the Dean of the College of Physicians and Surgeons on or before the first day of January, 1900. Each essay must be designated by a device or motto, and must be accompanied by a sealed envelope, bearing the same device or motto, and containing the name and address of the author. The envelope belonging to the successful essay will be opened, and the name of the author announced, at the annual Commencement of the University in 1900.

The prize is open for universal competition.

Joseph Mather Smith Prize

The fund for the Joseph Mather Smith Prize was given by the relatives, friends, and pupils of the late Dr. Smith, as a memorial of his services as Professor of Materia Medica in the College of Physicians and Surgeons from 1826 to 1866. Under the provisions of the trust an annual prize of $100 is awarded for the best essay (if sufficiently meritorious) on the subject of the year, presented by an alumnus of the College of Physicians and Surgeons. The competing essays should be sent to the Dean of the Medical Faculty on or before March 10, each essay signed with a device or motto, and accompanied by a sealed envelope, inscribed with the same device or motto, and containing the name of the author. The envelope of the successful essayist will be opened, and the prize awarded at the annual Commencement next following.

Schools of Mines, Chemistry, Engineering, and Architecture

Columbia Fellowship

A fellowship known as the "Columbia Fellowship in Architecture," established by the Trustees in recognition of the gifts of F. Augustus Schermerhorn, E.M., '68, to the department of Architecture, open to all graduates of the School of Architecture less than thirty years of age, is awarded under such rules and regulations as shall from time to time be determined by the President and the Professor of Architecture. Holders of such fellowships shall devote the income thereof to foreign study and travel in accordance with plans prepared by themselves and approved by the President and such professor, and shall upon return present a written report and exhibit drawings in the School of Architecture. Said fellowship shall be awarded in the spring of every even-numbered year, and payments thereof shall be made by the Treasurer, on the certificate of the Professor of Architecture, endorsed by the President.

McKim Fellowships

Two fellowships, known as the "McKim Fellowships in Architecture," endowed by gift of Charles F. McKim of $20,000, are awarded upon like con-

ditions and for like purposes as are specified in the foregoing section, but such fellowships shall be awarded in the spring of every uneven-numbered year, and payments thereof shall be made by the Treasurer, on the certificate of the Professor of Architecture, endorsed by the President.

Perkins Fellowship

A travelling fellowship, of the value of $1000, from the bequest of the late Willard B. Perkins, will be awarded in the spring of every fourth year beginning with the year 1902. This fellowship is open to all graduates of the School of Architecture less than thirty years of age, and shall be awarded under such rules and regulations as shall from time to time be established by the President and the Professor of Architecture. Holders of this fellowship shall devote the income thereof to study and travel, in accordance with plans prepared by themselves and approved by the President and such professor, and shall upon return present a written report and exhibit drawings in the School of Architecture. Payments shall be made by the Treasurer on the certificate of the Professor of Architecture, endorsed by the President, in four equal installments upon the usual quarter days.

Benefactors Scholarships

In recognition of the liberal gifts for the purchase of the site on Morningside Heights which have been received from J. Pierpont Morgan, Cornelius Vanderbilt, D. Willis James, Morris K. Jesup, Samuel D. Babcock, Oswald Ottendorfer, and others, the Trustees have established a number of scholarships, known collectively as Benefactors Scholarships, twenty-seven of which of the annual value of $200 each are open to students in the Schools under the Faculty of Applied Science, as follows: seven Morgan, seven Vanderbilt, ten James, one Jesup, one Babcock, and one Ottendorfer. These scholarships may be awarded to students who have been in the University for at least one year, and whose record for ability and scholarship gives evidence of special fitness for the course of study which they propose to pursue.

Faculty Scholarships

In addition to the above, eight Faculty Scholarships of the annual value of $200 each may be awarded to members of any class whose record for ability and scholarship, obtained either before or after matriculation, gives evidence of special fitness for the course of study which they propose to pursue.

Applications for the above scholarships should be made in writing on blanks, which will be furnished for the purpose by the Bursar, and addressed to the Dean of the Faculty of Applied Science. Applications should be made not later than May 1, as any received later than this may fail to receive consideration.

The award of scholarships will be made not later than July 1 by the Committee on Admissions. Scholarships not allotted at this time, or becoming vacant, may be filled by the Committee at its discretion.

One-half the annual value of the scholarships will be paid at the opening of the academic year, one-half at the beginning of the second half-year.

Scholars will be required to pay all the fees established for matriculation, use of gymnasium, tuition, and graduation, as well as any extra fees for examinations, as hereinbefore provided.

Scholarships granted in the first year of a student's connection with the University shall be for a half-year only, and shall be continued to those candidates only who have maintained a satisfactory academic standing during that period.

In awarding scholarships, preference will be given always to students of good academic standing and free from entrance conditions or other deficiencies. Scholarships will be awarded only to applicants who intend to complete one of the regular courses.

Illig Medals

"Illig Medals," provided for by a bequest of $2000 left by William C. Illig, E.M., '82, are awarded annually at Commencement, to the student or students in the graduating class of one of the Schools of Mines, Chemistry, Engineering, or Architecture who shall, in the judgment of the Faculty, have merited the same by commendable proficiencey in their regular studies.

School of Political Science

Schiff Fellowship

The Schiff Fellowship in Political Science, the gift of Mr. Jacob H. Schiff, of the annual value of $600, is open to graduates holding a first degree from any college or scientific school of good standing either in this country or in Europe. Appointment to the fellowship is made each year by the University Council upon the recommendation of the Faculty of Political Science, and the recommendation of this faculty is based upon the nomination following: On or before April 1 of each academic year the Faculty of Political Science shall propose to Mr. Jacob H. Schiff while living the name of a suitable person for nomination by him. After Mr. Schiff's death, his oldest living male descendant bearing his family name is to enjoy the right to nominate in the same manner. Should the family name become extinct, the right of nomination is to inhere in the oldest direct descendant of Mr. Schiff, bearing any other name, who is a resident of the United States. Should no nomination be made by Mr. Schiff or his successor after proper notification by the Faculty of Political Science, the President of the University is to have the right to nominate. Should the recommendation made by the Faculty be unacceptable to the person having the right of nomination, the Faculty shall propose other names until a nomination is made.

Seligman Prize in Political Economy

An annual prize of $150 for the best essay on some subject in political economy has been established by Mr. Edwin R. A. Seligman, of the Class of '79. Competition for the prize is open to all members of the School of Political Science. The topic selected must be approved by the Faculty, and the essay itself must not be less than twenty thousand words in length.

Bennett Prize

A prize of $40, to be given on Commencement Day, has been established by Mr. James Gordon Bennett. The prize is awarded by the Faculty of Political

Science for the best essay in English prose upon some subject of contemporaneous interest in the domestic or foreign policy of the United States, the subject for the present year being "The probable effects of the concentration of capital in the form of Trusts upon the laboring class." The competition is open to seniors in the College, whether regular or special students, and to all students under any of the faculties of the University, who have not yet taken the baccalaureate degree in arts, letters, or philosophy, provided that they take courses amounting to six hours a week throughout the year in the School of Political Science. Essays must be submitted to the President on or before May 1. If no satisfactory essay is received no award will be made. No award will be made for any essay that is defective in English composition.

Toppan Prize

A prize known as the Robert N. Toppan prize, of $150, maintained by Robert N. Toppan, LL.B., '61, is awarded annually to the member of the School of Political Science who shall pass the best written examination upon a paper prepared by the professor in charge of the department of Constitutional Law.

Prize Lectureships

The Trustees have established in the School of Political Science three prize lectureships of the annual value of $500 each, tenable for three years. The power of appointment is vested in the Faculty. One of these three lectureships becomes vacant at the close of each academic year. The previous holder may be reappointed. The conditions of competition are as follows:

1. The candidate must be a graduate of Columbia University in the School of Political Science or the School of Law. In the latter case he must have pursued the curriculum of the School of Political Science for at least two years.
2. He must be an active member of the Academy of Political Science.
3. He must have read at least one paper before the Academy of Political Science during the year next preceding the appointment.

The duty of the lecturer is to deliver annually, before the students of political science, a series of at least twenty lectures, the result of original investigation.

School of Philosophy

Mosenthal Fellowship

A fellowship known as the Joseph Mosenthal Fellowship in Music was established in 1898 in memory of the late Joseph Mosenthal, of New York City, and is designed to aid talented students of musical composition in the study of their art either here or abroad.

It is awarded every other year, and its value, at each award, is $600.

The appointment to the fellowship will be made by the University Council on the recommendation of the Professor of Music.

The fellow must pursue his or her studies either at Columbia University or under the direction of some master approved by the President and Professor of Music. Applicants are required to have a thorough knowledge of harmony and the elements of counterpoint. This fellowship, which is open to both men and

women, was bestowed for the first time at Commencement, 1899. Applications should be made prior to March 1, in writing, addressed to the President of Columbia University, on blanks provided for the purpose, which will be sent upon request.

Proudfit Fellowship in Letters

A fellowship known as the "Alexander Moncrief Proudfit Fellowship in Letters," for the encouragement of the study of English Literature, founded by the bequest of Alexander Moncrief Proudfit of the Class of '92, for the encouragement of the study of English Literature, is open to all persons who, being the sons of native-born American parents, shall have taken the degree of Bachelor of Arts after a three-years' residence in Columbia College, and who shall, while enjoying such fellowship, remain unmarried. Such Fellow shall be appointed by the University Council upon the joint recommendation of the professors in the English departments. Such appointment shall be for the term of one year, and may be renewed, for reasons of weight, for two terms of one year each, and no more. The Fellow so appointed shall be entitled to receive during his incumbency the net income of the capital sum constituting the endowment of such fellowship, to be paid upon the certificate of the President. He shall carry on his studies and research at Columbia University, or elsewhere, under the direction of the professors in the departments named.

Fellowship Regulations

No Fellow shall be allowed to accept remunerative employment except by permission of the President, and the acceptance of any such employment, without such permission, shall operate to vacate the fellowship.

All Fellows, except as hereinbefore provided, shall be required to pursue their studies during the term of their fellowship at the University, unless permission be granted by the President to study elsewhere.

All Fellows shall be governed by such rules and regulations, not inconsistent with the statutes, as may be prescribed by the Council.

Barnard Medal

A gold medal established by the provisions of the will of President Barnard and endowed by him, known as the "Barnard Medal for Meritorious Service to Science," is awarded at Commencement at the close of every quinquennial period dating from the 17th day of July, 1889, to such person, if any, whether a citizen of the United States or any other country, as shall within the five years next preceding have made such discovery in physical or astronomical science, or such novel application of science to purposes beneficial to the human race, as in the judgment of the National Academy of Sciences of the United States shall be esteemed most worthy of such honor.

Award of 1895

LORD RAYLEIGH, F.R.S. PROFESSOR WILLIAM RAMSAY, F.R.S.

Loubat Prizes

Mr. Joseph F. Loubat has established two prizes, a first prize of $1000, and a second of $400, for the best works published in the English language upon the history, geography, archæology, ethnology, philology, or numismatics of

North America. The competition for these prizes is open, under the deed of gift, to all persons, whether connected with Columbia University or not, and whether citizens of the United States or of any other country. No treatises shall be eligible for the purposes of the competition except such as relate to the topics involving antiquarian research, or that refer to events prior to 1776. In order to insure consideration of their works, authors are invited to send copies to the President of Columbia University, not later than April 1 of the year in which the prize is to be awarded; but the competition will not be restricted to works thus submitted. Copies of the regulations adopted by the Trustees can be obtained from the Secretary of the University.

Mr. Loubat has provided a permanent endowment for these prizes, which will make it possible to award them at least every five years. It has been decided to divide the above list of subjects into two groups, in which the award will be made alternately. These groups consist, respectively, of history, geography, and numismatics; and of archæology, ethnology, and philology. It has also been decided that, hereafter, Mr. Loubat's foundation shall be employed to stimulate research and not simply to reward the authors of meritorious works published without reference to these prizes. That is, the University will call for the investigation of certain questions and the publication of the results, and the best works produced in answer to this call, if of sufficient value, will receive the prizes. The awards to be made in 1903 shall be conferred for works relative to subjects in the first group. One or more special topics of investigation may be recommended, and the awards limited primarily to works upon such topic or topics. But if no works upon the topics suggested seem worthy of an award, the prizes will be adjudged to the best works falling within the general group of subjects designated for the period.

It is hoped that Mr. Loubat's generous foundation may serve to encourage American research in a field that is peculiarly our own, but in which much of the best work has hitherto been done by strangers.

For names of the Committee of Award for 1903, and for further details, address the Secretary of the University.

Award of 1893

First Prize, HENRY ADAMS, for his "History of the United States of America during the Administrations of Jefferson and Madison."

Second Prize, A. F. BANDELIER, for his "Report of Investigations among the Indians of the Southwestern States."

Award of 1898

First Prize, WILLIAM HENRY HOLMES, for his work entitled "Stone Implements of the Potomac—Chesapeake Tidewater Province."

Second Prize, FRANZ BOAS, Ph.D., for his monograph entitled "The Social Organization and the Secret Societies of the Kwakiutl Indians."

Grant Squires Prize

A prize known as the "Grant Squires Prize," consisting of the income to be derived from the fund heretofore established by Grant Squires, A.B. '85, LL.B. '87, is awarded at Commencement at the close of every quinquennial period,

dating from July 1, 1895, to such graduate conducting an original investigation of a sociological character as shall be adjudged most worthy by a Committee of Award, consisting of the President, the Professor of Sociology, and one of the professors of Political Economy, appointed by the Faculty of Political Science. Such award shall be deemed to be a recognition of scientific ability and achievement, as well as an encouragement of research.

SPECIAL FUNDS

The following funds have been given to the Trustees from time to time and are held by them for the purposes specified :

GEBHARD FUND :

Bequest of Frederick Gebhard of $20,000, for the endowment of a Professorship in the German Language and Literature. 1843.

FUND OF THE SOCIETY FOR PROMOTING RELIGION AND LEARNING :

Gift (through Professor McVickar) of $1,000, for the endowment of two prizes. 1852.

"The Society's Greek Seminary Prize," and
"The Society's English Seminary Prize."
Statutes, Ch. VIII, Sec. 7.

SAMSON SIMSON FUND :

Bequest of Samson Simson, Class of 1800, of $1,000 applied to the endowment of a fund for the purchase of law books. 1857.

HARSEN PRIZE FUND :

Bequest of Jacob Harsen, M.D., Class of 1825, of $31,114.10, for the endowment of prizes to be awarded to students in the College of Physicians and Surgeons. 1859.

"Harsen Prizes." Statutes, Ch. X, Secs. 8, 9.

MOFFATT SCHOLARSHIP FUND :

Bequest of William B. Moffatt, M.D., Class of 1838, of $2,000, for the endowment of scholarships. 1862.

"Moffatt Scholarships." Statutes, Ch. XXII, Sec. 5.

STEVENS PRIZE FUND :

Gift of Dr. A. H. Stevens, Professor of Surgery, 1860–1867, of $1,899.88, for the endowment of a prize. 1866.

"Stevens Prize." Statutes, Ch. X, Sec. 12.

JOSEPH MATHER SMITH PRIZE FUND :

Subscription fund of $2,337.81, as a memorial of Dr. Smith, for the endowment of a prize in the College of Physicians and Surgeons. 1874.

"Joseph Mather Smith Prize." Statutes, Ch. X, Sec. 13.

CHANLER PRIZE FUND :

Bequest of John Winthrop Chanler, Class of 1847, of $1,000, for the endowment of an essay prize. 1877.

"Chanler Historical Prize." Statutes, Ch. VIII, Sec. 8.

SCHERMERHORN SCHOLARSHIP FUND :

Bequest of John Jones Schermerhorn, Class of 1825, of $5,000, for the endowment of scholarships. 1877.

"Schermerhorn Scholarships." Statutes, Ch. XXII, Sec. 6.

JOHN MCKEON FUND :

Bequest of John McKeon, Class of 1825, of $1,000, applied to the endowment of a fund for the purchase of law books. 1885.

TYNDALL FELLOWSHIP FUND :

Gift of John Tyndall, LL.D.,Professor of Natural History in the Royal Institution of Great Britain, of $10,945.50, for the endowment of a fellowship in Physics. 1885.

"John Tyndall Fellowship for the Encouragement of Research in Physics." Statutes, Ch. XXI, Sec. 3.

ALONZO CLARK SCHOLARSHIP FUND :

Gift of $14,000 as a memorial of Alonzo Clark, President of the College of Physicians and Surgeons, 1875–1884, for the endowment of a scholarship. 1887.

"Alonzo Clark Scholarship." Statutes, Ch. X, Sec. 14.

MCKIM FUND :

Gift of Charles F. McKim of $20,000, for the endowment of travelling fellowships in Architecture. 1889.

"McKim Fellowships." Statutes, Ch. XXI, Sec. 7.

F. A. SCHERMERHORN FUND :

Gift of F. Augustus Schermerhorn, Class of 1868, of $13,000, to the School of Architecture, applied to the endowment of a travelling fellowship in Architecture. 1889.

"Columbia Fellowship." Statutes, Ch. XXI, Sec. 6.

BARNARD FUND FOR THE INCREASE OF THE LIBRARY :

Bequest by President Barnard of $62,086.21, and augmented by a bequest by his widow, Margaret M. Barnard, of $16,231.67, to endow a fund for the purchase of books, especially those relating to physical or astronomical science, and for the award of a medal for discovery in physics or astronomy. 1889.

"Barnard Medal for Meritorious Service to Science." Statutes, Ch. XXII, Sec. 8.

BARNARD FELLOWSHIP FUND :

Bequest by President Barnard of $10,000, for the endowment of a fellowship for encouraging scientific research.

"Barnard Fellowship for Encouraging Scientific Research." 1889. Statutes, Ch. XXI, Sec. 4.

DA COSTA FUND :

Bequest of Charles M. Da Costa, Class of 1855, Trustee 1886–1890, of $100,000, has provided $86,576.83, applied to the endowment of the Da Costa Professorship of Zoölogy and of $20,000 used for fitting up the Da Costa Laboratory of Zoölogy. 1890.

SLOANE MATERNITY HOSPITAL FUND :

Gift of William D. Sloane and Emily Thorn Vanderbilt Sloane, of $250,000, for the endowment of the Hospital. 1890.

VANDERBILT CLINIC ENDOWMENT FUND :

Gift of Cornelius Vanderbilt, William K. Vanderbilt, Frederick W. Vanderbilt, and George W. Vanderbilt, of $115,000, for the endowment of the Clinic. 1890.

AVERY ARCHITECTURAL FUND :

Gift of Samuel P. Avery and Mary Ogden Avery of $30,000, in memory of their deceased son, Henry Ogden Avery. The income to be applied to the purchase of books relating to architecture, decorations, and allied arts. 1890.

MARGARET M. BARNARD FUND :

Bequest of Margaret M. Barnard (widow of President Barnard) of $16,231.67, to augment the fund established by President Barnard. 1892.

LOUBAT FUND :

Gift of Joseph F. Loubat of $7,000, for the endowment of two prizes of $1,000 and $400 to be awarded once in every five years for the best work printed and published in the English language on the history, geography, archæology, ethnology, philology, or numismatics of North America. 1892.

"Loubat Prizes." Statutes, Ch. XXII, Sec. 15.

LOUBAT PRIZE FUND :

The accumulated income of the Loubat Fund, from which are awarded every five years prizes to the amount of $1,400, is kept as a separate fund. $923.84.

TROWBRIDGE FUND :

Gift of $10,000, for the endowment of a fellowship in Engineering as a memorial of William P. Trowbridge, Ph.D., LL.D., Professor of Mining Engineering, 1877–1892. 1893.

"William Petit Trowbridge Fellowship in Engineering."

PULITZER SCHOLARSHIP FUND :

Gift of Joseph Pulitzer of $100,000, for the endowment of scholarships. 1893.

"Pulitzer Scholarships."

BENNETT PRIZE FUND :

Gift of James Gordon Bennett of $1,000 for the endowment of an essay prize. 1893.

"Bennett Prize." Statutes, Ch. XII, Sec. 8.

HAMILTON FISH FUND :

Bequest of Hamilton Fish, LL.D., Class of 1827, Trustee, 1840–93, of $50,000. In recognition of this gift, the "Hamilton Fish Chair of International Law and Diplomacy" was so named. 1893.

HENRY DRISLER CLASSICAL FUND :

Gift of $10,000, presented by Seth Low, LL.D., Class of 1870, in commemoration of the semi-centennial of Professor Drisler in the service of the College, for the endowment of a fund for the purchase of books and works of art for the Greek and Latin departments. 1894.

GRANT SQUIRES FUND :

Gift of Grant Squires, Class of 1885, of $1,050, for the endowment of an essay prize. 1895.

"Grant Squires Prize." Statutes, Ch. XXII, Sec. 14.

STUART SCHOLARSHIP FUND :

Gift of Mrs. Cornelia A. Atwill of $6,000, for the endowment of the "Stuart Scholarships" in memory of her grandsons, Sidney Barculo Stuart, Class of 1880, and Eugene Talman Stuart, Class of 1881. 1896.

"Stuart Scholarships." Statutes, Ch. XXII, Sec. 13.

ALEXANDER I. COTHEAL FUND FOR THE INCREASE OF THE LIBRARY :

Gift of Mrs. Samuel R. Lawrence and Mrs. James R. Swords of $6,000 in memory of their brother, Alexander I. Cotheal, for the endowment of a fund for the purchase of books in the Oriental languages, or relating to Oriental subjects. 1896.

ROBERT CENTER FUND FOR INSTRUCTION IN MUSIC :

Gift of Mrs. Mary Elizabeth Ludlow of real estate and securities valued at $123,524.50, for the endowment of a fund for instruction in music as a memorial of her son, Robert Center, applied to the maintenance of a professorship. 1896.

STUDENTS' LOAN FUND :

Gift of Jacob H. Schiff of $5,000, for the aid of needy students. 1896.

H. C. BUNNER PRIZE FUND :

Gift of $1,000, for the endowment of an essay prize. 1896.

"H. C. Bunner Medal." Statutes, Ch. XXII, Sec. 16.

ILLIG FUND :

Bequest of William C. Illig, Class of 1882 (S. of M.), of $2,000, for the endowment of scholarship medals. 1897.

"Illig Medals." Statutes, Ch. XI, Sec. 9.

MOSENTHAL FELLOWSHIP FUND :

Gift of friends of the late Joseph Mosenthal of $7,500, to found a Fellowship in Music. 1898.

Statutes, Ch. XXI, Sec. 15.

PERKINS FELLOWSHIP FUND :

Bequest of Willard B. Perkins, who died in 1897, of $5,700. The income to be expended every four years for a travelling fellowship in the Architectural Department. The Fellowship will be next awarded in June, 1902. 1898.

Statutes, Ch. XXI, Sec. 17.

SCHIFF FELLOWSHIP FUND :

Gift of Jacob H. Schiff of $15,000, to found a fellowship in the School of Political Science, to be annually awarded by the Faculty on the nomination of the donor or his eldest living male descendant. 1898.

Statutes, Ch. XXI, Sec. 16.

SEIDL FUND :

The proceeds, amounting to $12,000, of a Memorial performance held at the Metropolitan Opera House on March 23d, 1899, in honor of the late Anton Seidl. The income to the Fund to be paid to Mrs. Seidl during her lifetime, and thereafter "to be awarded at least every second year to the most promising candidate, either man or woman, prepared to devote himself to the study of musical composition at Columbia University, or elsewhere in this country or abroad." 1899.

WARING MUNICIPAL FUND :

The Chamber of Commerce of the State of New York, in the latter part of the year 1898, raised by public subscription the sum of $100,000, to perpetuate the memory of the late Col. George E. Waring. The income thereof (to be not less than $4,000 per year) to be paid semi-annually to the widow and daughter of Colonel Waring during their lifetime, and thereafter the income "shall be devoted to the purpose of instruction in municipal affairs in such mannner as the President and Board of Trustees of said Columbia College may direct." 1899.

FUND FOR THE ENDOWMENT OF THE ABRAHAM JACOBI WARD FOR CHILDREN IN ROOSEVELT HOSPITAL :

Gift of an anonymous donor of $50,000, "to endow a ward for children in the Roosevelt Hospital." 1899.

BECK FUNDS :

The late Charles Bathgate Beck, A.B. Class of '77, LL.B. Class '79 (who died in 1894) bequeathed the sum of $10,000 to be applied as follows : $2,000 to found one free scholarship, the income to be applied "to the free yearly tuition and education in said College of one student forever, under such terms and conditions as the rules of said College and said Trustees shall prescribe." The income of the remaining $8,000 to be used for an annual prize "to the student in the Law School who shall pass the best examination in Real Estate Law." 1899.

Statutes, Ch. XXII, Secs. 24 and 25.

CURTIS FUND :

Gift of the George William Curtis Memorial Committee of $10,000, to establish a fellowship in the School of Political Science in Columbia University, to bear the name and to perpetuate the memory of the late George William Curtis. The holder of the Fellowship to devote himself to the study of the Science of Government, with a special view to its application to the then existing condition of the United States, or of the State or City of New York, and to publish a monograph on some subject relating to the then existing condition of the United States. 1899.

DYCKMAN FUND :

Gift of Isaac Michael Dyckman of $10,000, in memory of his uncles, Dr. Jacob Dyckman and Dr. James Dyckman, both of the College of Physicians and Surgeons, to establish the "Dyckman Fund for the Encouragement of Biological Research," "the interest derived therefrom to be devoted annually to such object consistent with the purposes of the gift as shall be recommended by the Department of Zoölogy and approved by the President." 1899.

PRIVILEGES IN OTHER INSTITUTIONS OPEN TO STUDENTS OF COLUMBIA UNIVERSITY

American Museum of Natural History

The American Museum of Natural History places its collection at the service of advanced students of Columbia University for the purposes of study and research, and provides them with the necessary facilities for work.

Metropolitan Museum of Art

The Metropolitan Museum of Art admits students of Columbia University to the Museum on presentation of their matriculation cards, and gives them permission to draw, sketch, or copy objects in the Museum ; the curator of the department in which the student desires to work furnishing him with cards for the work.

Objects may be removed temporarily from exhibition for the purpose of special study, and students are allowed to study these objects in rooms specified for the purpose.

Union Theological Seminary

The Union Theological Seminary admits, without fee, such students of high standing in the senior year of Columbia College and in the graduate department of the University as may be recommended by the President, to such lectures in the regular courses of the Seminary as may be agreed upon by the faculty of the Seminary and the President of Columbia University, and also any students of high standing in the graduate department of Columbia University recommended by the President, to any optional or special classes, subject to the approval of the faculty of the Seminary.

The privileges of the library of the Seminary, for reference, are open to all students of Columbia University on recommendation of the President. Reciprocal advantages are offered by the University to students of the Seminary.

Botanical Garden

Columbia University has the right to conduct university courses in botany at the New York Botanical Garden and to use the laboratories and floral material of the same, and all courses of instruction given there are open to officers and students of the University without charge.

PUBLIC LECTURES

In addition to a number of public lectures of which the details are not arranged in advance, Columbia University maintains courses of lectures during the months of December, January, February, and March, as follows :

At the American Museum of Natural History, Saturday Evenings.

At Cooper Union, Tuesday Evenings.

At the Metropolitan Museum of Art, Saturday Mornings.

These lectures are open to the public without fee.

THE LIBRARY

JAMES H. CANFIELD.....*Librarian*
CHARLES A. NELSON.....*Head Reference Librarian and Editor of Library Publications*
EDWARD R. SMITH.....*Reference Librarian, Avery Library*
WILLIAM H. SWITZER.....*Law Librarian*
MARGARET VAN ZANDT.....*Supervisor, Order Department*
HARRIET B. PRESCOTT.....*Supervisor, Catalogue Department*
JAMES T. GEROULD.....*Supervisor, Department of Serials*
FREDERIC W. ERB.....*Supervisor, Loan Division of Readers' Department*
GEORGE HECKROTH.....*Supervisor, Shelf Department*

The Library is open each week day (except Thanksgiving, Christmas, Good Friday, and Independence Day) from 8.30 A.M. until 10 P.M., July–September; and until 11 P.M., October–June. All officers, students, and graduates of all departments of the University have free access to the Library and may draw books for home use.

Officers, students, and graduates of Barnard College and of Teachers College have corresponding privileges; and the Library of Teachers College is open, on similar terms, to persons connected with the University. Officers of the New York University and of the College of the City of New York are granted the same Library privileges as are extended to graduates of Columbia University.

Persons not connected with the University, who are responsibly introduced to the Librarian, are given the privilege of using the Library in the building.

A reference library of about 10,000 volumes of carefully selected reference books and of the most important works on all subjects, in standard editions, representing the leading authors in all literatures, is placed in the general reading-room, directly accessible to all readers.

Connected with the stacks in which are stored the books relating especially to Philosophy, Education, Literature, and Philology, the Sociological and Economic Sciences, Public Law, and History, are eighteen special study rooms open only to authorized readers. This arrangement is intended to give to advanced students and investigators in these fields the fullest opportunity to carry on their work by the use of a quiet room in the immediate vicinity of the literature of the subjects under consideration.

The reading-room of the Law Library occupies the middle of the north wing of the Library building, on the main floor. This is the central feature of the Law School, to which the north wing of the building is devoted.

The Avery Architectural Library is a collection of about 16,000 volumes relating to architecture and decorative art. Readers have direct access to the alcoves.

The entire Library is carefully and accurately catalogued both by authors and subjects. The catalogue is on cards accessible to readers.

The Library contains about 285,000 volumes, exclusive of unbound pamphlets and duplicates. The additions for the past five years have averaged over 18,000 volumes annually.

Among the notable special collections may be mentioned the Phœnix Library, consisting of 7000 volumes, the gift of Stephen Whitney Phœnix of the Class of 1859; the Avery Architectural Library; the Mary Queen of Scots Library, collected and given by General J. Watts de Peyster, containing 400 volumes; the collection of 1200 volumes by and about Goethe; the Immanuel Kant collection of over 600 volumes; and the valuable Townsend Library of National, State, and Individual War Records.

THE GYMNASIUM

WATSON L. SAVAGE, A.M., M.D. *Director*
GUSTAV H. BOJUS *Instructor*
G. RUPPERT SEIKEL *Pianist and Assistant Instructor*
CHARLES HOLROYD *Instructor in Swimming*
F. KIDDE *Secretary*
LOUIS REGAL *Clerk*

The Gymnasium is open daily during the academic year, except on Sundays and legal holidays, from 10 A.M. to 6 P.M. These hours are subject to modification in the light of experience.

The general exercising room is apsidal in shape, and measures on its axes 168 feet by 134 feet in the clear. The ceiling is 35 feet high, and the room is well lighted and well ventilated, both naturally and artificially. The arrangement of the apparatus is such that athletic, gymnastic, and calisthenic work can go on at the same time. The running track is 11 feet wide, with ends well raised for fast running, and measures 9½ laps to the mile. On a floor 22 feet above the exercising floor are rooms for fencing, boxing, and hand-ball, 1,500 lockers made of steel and open wire, and 32 shower-baths. Below the exercising floor is a swimming pool, also apsidal in shape, measuring 100 feet by 50 feet on its axes. Around the pool are four large dressing and rubbing rooms, 42 individual dressing rooms of thick opaque glass, and 20 shower, needle, and tub baths. The pool contains about 200,000 gallons of water, which is filtered and, in winter, warmed. The depth is from 4 to 10 feet. The pool is illuminated by electric lights, placed around the edges beneath the surface of the water. On this floor is also a special training room for the crews, with separate bath and locker rooms for both the university and freshmen crews.

Every student, other than students of the College of Physicians and Surgeons, must pay annually a gymnasium fee of $7.00. This covers the use of the Gymnasium, a locker, and the baths, and includes all necessary laundry service. Officers, students in the College of Physicians and Surgeons, and alumni may use the Gymnasium upon the same terms.

Every student is entitled to a physical examination by the Director. His physical measurements will be recorded; his strength tested; his heart, lungs, eyes, and ears examined; and his general health inquired into. On the basis of this examination, advice will be given as to the kind and amount of exercise best adapted to his needs.

Two hours a week of work in the Gymnasium is prescribed for all members

of the two lower classes in the College and the Schools of Applied Science, except special students and students holding degrees from other colleges.

The work prescribed for these classes has been arranged with a view to instructing students in the use of the apparatus provided and giving them the largest amount of the most suitable exercise. The movements are arranged in the most approved physiological order and are designed to exercise every part of the body without exhaustion. In addition, each student in these prescribed courses is given, without extra charge, an opportunity to learn the elements of the four principal arts of self-preservation,—boxing, fencing, wrestling, and swimming.

The prescribed work for freshmen and sophomores consists of (1) carefully arranged movements in classes, with musical accompaniment, free-hand exercises, and drills with dumb-bells, French wands, Indian clubs, iron wands, and chest weights; (2) progressive exercises, in graded squads, on the various heavy apparatus, such as horizontal, vaulting, and parallel bars, flying and swinging rings, German horses and bucks, ladders, tumbling, and the like; (3) gymnastic games that develop agility, coördination, and ability to think and act quickly. Students who cannot swim are also taught, in small squads. In addition, sophomores are taught the elements of boxing, fencing (cane defence), and wrestling, so that each student may know the guard for every blow, whether with fist or cane, and how to break any hold in "catch as catch can" wrestling.

In the prescribed courses students are marked upon the basis of attendance, effort, and knowledge of the subjects taught.

Optional classes, open to every member of the University, for exercises similar to those in the prescribed courses, are held every afternoon except Saturday, as follows: Monday, Wednesday, and Friday, mass exercises in light gymnastics; Tuesday and Thursday, squad exercises in elementary and advanced heavy gymnastics.

One or more of the instructors are on the floor at all times when the Gymnasium is open.

Rules Governing Students Participating in Athletics

To represent Columbia University in any public contest, a student must conform to the following rules:

Section I

RULE

1. He must be an amateur.
2. If a candidate for a degree, he must attend regularly all the exercises of his class.
3. If a special student, he must give evidence of good faith regarding his intention to remain a full year in the University. He must also take courses amounting to not less than ten hours a week and attend regularly the exercises in such courses.
4. Like other students, he must maintain satisfactory standing in his class. A student who does not maintain a satisfactory standing in one school of the University cannot, by entering another, alter his status as regards these rules.

5. He must not receive any form of remuneration ; that is, he must not receive any pecuniary benefit whatsoever from his connection with any athletic team.

6. He must pass a physical examination satisfactory to the Director of the Gymnasium.

7. Students from other colleges or universities who have represented those institutions in any intercollegiate contest shall not be eligible to represent Columbia University until they have been in residence for at least one academic year.

Section II

RULE

1. Schedules for all games must be submitted to the Committee on Athletic Sports and approved by them.

2. A similar approval is required in the case of every individual intending to represent Columbia University in any single contest.

Section III

No athletic association or class of the University shall enter a team or an individual in any public athletic contest so long as there is any outstanding indebtedness against the association or athletic interests thus represented.

PROF. J. F. KEMP, *Chairman*,
PROF. F. R. HUTTON,
DR. W. L. SAVAGE, *Secretary*.
Committee on Athletics.

PUBLIC WORSHIP AND RELIGIOUS WORK

A service is held every week day, except Saturday, in the temporary chapel Room 305, Schermerhorn, at 9.10 A.M. This hour, though early for those who live at a distance, has been found the most convenient all things considered. The service lasts fifteen minutes, in which time there are singing, reading the scriptures, prayers, and generally an address by the Chaplain. Attendance is wholly voluntary. All officers and students of the University are invited to attend, and those who profess and call themselves Christians are expected to give support to the services by their occasional presence.

Religious work accompanies religious worship. The Chaplain spends his morning hours in his office, No. 415 West, where at stated times he is glad to welcome any student who may wish to confer with him.

In West there is also a suite of rooms set apart for use of the University Young Men's Christian Association, under whose direction there are Bible Classes held each week, religious meetings conducted, and much good work of a practical character carried on among the students.

Mr. Albert Britt is Secretary of this organization, and is also associated with the committee having in charge the work of securing positions that will give remuneration to students wishing employment. He can be addressed at the Y. M. C. A. rooms, 409–413 West.

DEPARTMENTS OF INSTRUCTION

When an announced course has not been applied for by at least three students, candidates for a degree, the instructor shall be at liberty to withdraw the course.

The number of hours, unless otherwise specified, indicates the number of hours a week for the entire year.

Anatomy

GEORGE SUMNER HUNTINGTON, M.D. *Professor*
BERN BUDD GALLAUDET, M.D. *Demonstrator*
WILLIAM H. ROCKWELL, Jr., M.D. *Assistant Demonstrator*
GEORGE EMERSON BREWER, M.D. *Assistant Demonstrator*
FRED. JOHN BROCKWAY, M.D. *Assistant Demonstrator*
JOSEPH A. BLAKE, M.D. *Assistant Demonstrator and Alumni Association Fellow in Anatomy*
GEORGE W. CRARY, M.D. *Assistant Demonstrator*
HOWARD D. COLLINS, M.D. *Assistant Demonstrator*
WALTON MARTIN, M.D. *Assistant Demonstrator*
C. C. CARMALT, M.D. *Assistant Demonstrator*
ARTHUR S. VOSBURGH, M.D. *Assistant Demonstrator*

Courses

1—Vertebrate morphology—Anatomy of the body cavities—Visceral and topographical course—Thorax and abdomen. Lectures combined with demonstrations. 3 hours. Professor HUNTINGTON

Required, in the second year, of candidates for the degree of M.D.

2—Demonstrations to sections of the class—Cranial osteology and syndesmology, myology, angeiology of the head and neck and peripheral nervous system of the week. 1 hour. Dr. BLAKE

Required, in the first year, of candidates for the degree of M.D. Elective, in conjunction with 3, 4, and 5, for seniors in Columbia College.

3—Demonstrations to sections of the class—Osteology, syndesmology, myology, peripheral nervous system, and angeiology of the extremities. 2 hours. Dr. BROCKWAY

Required, in the first year, of candidates for the degree of M.D. Elective for seniors in Columbia College, in conjunction with 2, 4, and 5.

These courses are so arranged as to maintain, with reference to the subjects treated, a direct connection with the laboratory course in dissection, No. 5.

4—Demonstrations to sections of the class.

(B) Preliminary visceral course—Anatomy of the viscera and body cavities. 1 hour.

This portion of the course is designed to afford that general instruction in the descriptive anatomy and the relations of the viscera which is indispensable for the understanding of the courses in the normal histology and physiology of the viscera. Dr. BREWER

Required, in the first year, of candidates for the degree of M.D. Elective for seniors in Columbia College, in conjunction with 2, 3, and 5.

5—Laboratory course—Dissection of the human body. 18 to 20 hours a week, at various hours, for from 3 to 5 periods of 4 weeks each. Professor HUNTINGTON, Dr. GALLAUDET, and the ASSISTANT DEMONSTRATORS OF ANATOMY

Required, in the first year, of candidates for the degree of M.D. Elective for seniors in Columbia College, in conjunction with 2, 3, and 4.

6—Laboratory course—Dissection of the human body. 10 to 12 hours a week for from 6 to 11 weeks. Professor HUNTINGTON, Dr. GALLAUDET, and the ASSISTANT DEMONSTRATORS OF ANATOMY

Required, in the second year, of candidates for the degree of M.D.

7—Demonstrations to sections of the class—Anatomy of the mouth, pharynx, and larynx—The auditory apparatus—The central nervous system. 3 hours. Dr. GALLAUDET

Required, in the second year, of candidates for the degree of M.D.

8—Demonstrations to sections of the class—Visceral anatomy. This course preserves an organic connection with Course 1, and presents for direct examination and demonstration the preparations serving to illustrate that course. 2 hours. Dr. MARTIN

Required, in the second year, of candidates for the degree of M.D.

9—Demonstrations to sections of the class—Anatomy of the cranial nerves. 1 hour for one half-year. Dr. MARTIN

Required, in the second year, of candidates for the degree of M.D.

10—Laboratory courses in animal morphology. No specified number of hours a week. Professor HUNTINGTON

Optional for qualified candidates for the degree of M.D. Open as major or minor courses to candidates for the degree of A.M. or of Ph. D.

Research

11—The laboratory of animal morphology is open for research, under the direction of the Professor, to advanced workers. Professor HUNTINGTON

12—Comparative morphology of the carpus—A comparative study of the carpus in vertebrates above fishes, with especial reference to the homologies of the components, their evolution and significance, and their mutual relations in amphibia, reptiles, birds, and mammals. Professor HUNTINGTON

13—Comparative morphology of the respiratory apparatus, in mammalia, sauropsida, and batrachia—Evolution of the composite mammalian lung from the air-sac.—Morphology of mammalian bronchial tree.—Construction of terminal branches and end spaces. Skeletal and other modifications of the respiratory apparatus in birds. Professor HUNTINGTON

14—Comparative morphology of the central nervous system—Demonstration and laboratory course. Detailed work in brain of cod, frog, turtle, bird, and mammal. Professor HUNTINGTON

15—Comparative myology.

(*a*) Appendicular muscles.

(*b*) Ventro-appendicular muscles.

(*c*) Muscles of the foot.

Professor HUNTINGTON

16—Human and comparative morphology of the auditory apparatus. Professor HUNTINGTON

17—Comparative morphology of the upper respiratory passages, nares, larynx, epiglottis, syrinx—Professor HUNTINGTON

18—Comparative morphology of the uro-genital system—Professor HUNTINGTON

19—Cranial topography—Professor HUNTINGTON

This course is designed for advanced students possessing a knowledge of the gross morphology of the human brain.

Pre-requisite: Course 7 or its equivalent.

20—Comparative morphology of the heart and vascular system—Development and modification of the venous system in vertebrates. Professor HUNTINGTON

21—Comparative morphology of the alimentary tract and digestive glands—Anatomy of the peritoneum. Professor HUNTINGTON

22—Comparative morphology of the cæcum and ileo-colic junction in vertebrates—Detailed study of the modifications of the structures and their vascular and serous relations. Professor HUNTINGTON

23—Topography of the pelvic viscera, muscles, and faciæ—Professor HUNTINGTON

24—Anatomical technology and museum methods—Professor HUNTINGTON

Open only to teachers and qualified post-graduate students.

25—Lecture course on comparative vertebrate morphology—Professor HUNTINGTON

A series of university lectures and demonstrations based on the material contained in the Morphological Museum is given annually.

These lectures are incorporated in Course 1, and deal with the comparative anatomy of the circulatory, respiratory, alimentary, and uro-genital systems of vertebrates, together with certain portions of the skeletons, as the pectoral and pelvic girdles. The lectures are open to students under the Faculty of Pure Science. Details of subjects and dates will be furnished on application to the department.

Courses 10 to 24 inclusive are opened, as majors or minors, to candidates for the degrees of A.M. and Ph.D. ; to qualified candidates for the degree of M.D., as optional courses ; and to post-graduate students.

In all courses offered in morphology the work is designed to be laboratory exercises of as least two continuous hours' duration, at any one exercise, supplemented in certain courses by demonstration and study of material contained in the Museum of Human and Comparative Anatomy and in the study collections of the department.

The time required for the above courses, if offered as minors for the degree of A.M. or Ph.D., or if taken as optionals, is half a day per week from October to April.

The demands on laboratory space and teaching force render it necessary to limit the number of candidates admitted to these courses.

Fellowships

For the fellowships open to persons desiring to do special work under the Professor of Anatomy, see page 30.

Anatomical Laboratories

The laboratory facilities of the department of Anatomy are very complete. The large general dissecting-room accommodates from 390 to 546 students at a time, working in groups of five or seven, respectively, at one table.

The plant for the production of artificial cold by the anhydrous ammonia process has enabled the department, through the means offered for the indefinite preservation of fresh subjects by the cold-storage system, greatly to increase the amount of material available for laboratory work ; and has also rendered it possible so to regulate the temperature of the general laboratory that the work can be carried on without difficulty during the warmer months at the beginning and close of the academic year.

The laboratory for advanced morphological research occupies the third story of the new Anatomical building. Every facility for advanced and research work in morphology is here extended. The established connections of the department furnish abundant human and comparative material, both mature and embryonal. The private library of the Professor of Anatomy is at the disposal of advanced workers.

Museum of Human and Comparative Anatomy

Much work has been done in the formation of a Museum of Human and Comparative Anatomy, the ultimate design of which is to present, in as complete a manner as possible, a view of the evolution of the forms of animal life, and of their natural relations, both in series of natural groups, and in the comparative and relative position of organs and systems. Even the approximate attainment of this aim will require much time and work, but sufficient progress has been made to enable the department to offer great facilities for study and research. The collection, both as regards groups and the individual preparations, is designed for the illustration of both elementary and advanced courses,

and is largely used in the instruction of the medical undergraduates and in advanced study and research. The new Anatomical building provides the opportunity for the further development of this invaluable portion of the departmental equipment. The first and second stories of the new building are devoted to the Morphological Museum, and it is hoped that in the space thus provided the continued development of scientific anatomy, both for purposes of undergraduate instruction and of advanced research, will steadily proceed.

In addition to the museum collection proper the department is constantly adding to a large collection for advanced study and research.

A study-collection of human osteological preparations is so administered as to enable every student to take out the different osteological series and retain them for private study as long as required.

Anthropology

(See page 153)

Architecture

WILLIAM R. WARE, LL.D. *Professor of Architecture*
ALFRED D. F. HAMLIN, A.M. *Adjunct Professor of Architecture*
FRANK DEMPSTER SHERMAN, Ph.B. *Adjunct Professor of Architecture*
MAXIMILIAN K. KRESS, A.M. *Curator and Lecturer in Architecture*
GRENVILLE T. SNELLING, S.B. *Instructor in Architectural Engineering*
CHARLES A. HARRIMAN *Instructor in Architectural Drawing*
CHARLES P. WARREN, A.M. *Tutor in Architectural Construction*
WILLIAM T. PARTRIDGE *Lecturer in Architectural Design*
HENRY F. HORNBOSTEL, Ph.B. *Assistant in Architectural Design*

The first three years are given to parallel courses in drawing and design, in history and ornament, and in mathematics, architectural engineering, specifications, and building materials, with exercises in the reading of French and German text-books and the writing of English. In the second and third years there are lectures on the theory of architecture and on the decorative arts. Many of these subjects are given in alternate years, two classes taking them together. In the fourth year the students have the choice of an advanced course in history and design, or of an advanced course in scientific and practical construction. These are identical with the university courses in these subjects, so that a student who selects one of these courses as an undergraduate may return and take the other as a university student.

Graduates of colleges, schools of science, and schools of architecture, and professional draughtsmen of mature age are received as special students, not candidates for a degree, into such courses as they are qualified to pursue.

In alternate years are awarded a travelling fellowship of the value of $1300, established by the Trustees in recognition of the liberality to this department of Mr. F. A. Schermerhorn, and two travelling fellowships of the value of $1000 each, the gift of Mr. C. F. McKim. Courses 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, and 15 are open as electives to seniors in the College.

Courses

1—Ancient architectural history. 3 hours, first year. Text-book: Reber's *History of Ancient Art.* Mr. KRESS

2—Mediæval architectural history—Byzantine, Romanesque, Gothic. 2 hours, first half-year, with reading of a French text-book by the first class and of a German text-book by the second class. 2 hours reports and criticisms, and 13 hours original research in library and drawing-room, second half-year. Exercises in historical design (see 15). Text-books: Corroyer, *L'Architecture Gothique;* and Hauser, *Styl-lehre des Mittelalters* (see 16). Every other year to the second and third classes together (alternating with 3). Given in 1900–1901. Professor WARE and Mr. KRESS

3—Modern architectural history—The Renaissance, modern revivals, Oriental and American architecture. 2 hours, first half-year, with reading of a French text-book by the second class and of a German text-book by the third class. 2 hours lectures, and 12 hours research in library and drawing-room, second half-year. Exercises in historical design (see 15). Text-books: Palustre, *L'Architecture de la Renaissance;* Hauser, *Styl-lehre Renaissance* (see 16). Every other year to the second and third classes together (alternating with 2). Given in 1899–1900. Professor HAMLIN and Mr. KRESS

4—The theory of architecture—In alternate years: (*a*) The theory of form, proportion, symbolism; (*b*) the decorative arts, stained glass, mosaic, fresco. Given in 1900–1901. (*c*) The theory of color; (*d*) planning, composition, and style. Given in 1899–1900. 1 hour, second and third classes together. Professor WARE

5—History of ancient ornament—The decorative forms of Egyptian, Assyrian, Greek, and Roman art. 1 hour, first year. Professor HAMLIN

6—History of mediæval ornament—Byzantine and Gothic ornament. 1 hour. Every other year to the second and third classes together (alternating with 7). Given in 1900–1901. Professor HAMLIN

7—History of modern ornament—Renaissance, Oriental, and modern ornament. 1 hour. Every other year to the second and third classes together (alternating with 6). Given in 1899–1900. Professor HAMLIN

8—The elements of architecture—Mouldings, the orders, pedestals, pilasters, pediments, intercolumnation, superposition, balusters and balustrades, arches and arcades, imposts, doors, windows, roofs, spires, steps, stairs, vaults, domes. Eighteen plates required. 3 hours lectures and 5 hours drawing, second half of first year. Professor SHERMAN

9—Drawing.

(*a*) Architectural drawing, with brush, pencil, and pen. 8 hours, first year. Mr. HARRIMAN

(*b*) Free-hand drawing, with pencil, pen, and brush; sketching and drawing of ornament and the figure from lithographs, photographs, and casts; water-colors. About 4 hours a week throughout four years. Professor HAMLIN, Mr. HARRIMAN, and Mr. PARTRIDGE

(*c*) Historical drawing. 2 hours, first year. In illustration of ancient history, in connection with Course 1. Mr. KRESS

Second and third years, 13 hours, during part of the second half-year. In alternate years: Mediæval history in connection with Course 2. Professor WARE, Mr. KRESS, and Mr. PARTRIDGE. Modern history, in connection with Course 3. Professor HAMLIN, Mr. KRESS, and Mr. PARTRIDGE

(*d*) Sketches and measured drawings from buildings. Summer-vacation work, second and third years. Professor HAMLIN

10—Projections, intersections, and shades and shadows. 3 hours lectures and 5 hours drawing, first half of first year. Twenty plates required. Professor SHERMAN

11—Perspective. 8 lectures, second year. Eight plates required. Professor WARE

12—Descriptive geometry, stereotomy (stone-cutting). 2 hours, fourth year. Twenty plates required. Professor SHERMAN

13—Specifications.

(*a*) 1 Masonry: stone-work, brick-work, plastering; drainage; fire-proofing.
2 Woodwork: carpentry, joinery, hardware, painting, glazing, roofing; slow-burning construction; heating and ventilation.
3 Iron-work: steel and iron construction, joints, framing, and bracing; plumbing.

The class copy a model specification and are examined upon the lectures. 2 hours, third year. Mr. WARREN

(*b*) 1 Building-stones, artificial stones, cements, asphalt, terra-cotta.
2 Growth and preservation of wood; paints, glass.
3 Metals, fire-proofing.

2 hours, third year. Professor WARE, Professor CHANDLER, Professor ROOD, Professor MUNROE, Professor RICKETTS, Professor MOSES, Professor KEMP, Professor PEELE, Professor CROCKER, Professor HAMLIN, Mr. SNELLING, and Mr. WARREN

14—Architectural engineering—(*a*) Analytical geometry: the differential and integral calculus. 2 hours, first year. (*b*) Analytical mechanicals: statics, elementary dynamics. 3 hours, second year. Text-book: Lanza's *Applied Mechanics*. Professor SHERMAN. (*c*) Applied mechanics: foundations, retaining walls, walls, pillars, beams, trusses, arches, vaults, and domes. 6 hours, third year. Mr. SNELLING

15—Architectural design. 1 hour, first year; 13 hours, first half of the second and third years. Problems in design: plans, elevations, sections, and details. Professor WARE, Professor HAMLIN, and Mr. PARTRIDGE

In the second year the problems involve special drill in the use of the orders; in the third year in planning and composition (see 19).

In the second and third years the afternoons of the second half-year are mainly occupied by historical study; but there are also a limited number of problems in historical design (see 2 and 3).

16—Archæology. 2 hours, first year, in French. Text-books: in alternate years, Corroyer, *L'Architecture Gothique*; Palustre, *L'Architecture de la*

Renaissance. 2 hours, second year, in German. Text-books: in alternate years, Hauser, *Styl-lehre des Mittelalters;* Hauser, *Styl-lehre Renaissance* (see 2 and 3). Mr. KRESS

17—Architectural essays. 1 hour, first, second, and third years. Professor WARE

18—Advanced architectural history. 2 hours, fourth year. Reading and writing on special topics with illustrative drawings. Professor WARE

19—Advanced architectural design—Advanced problems in planning and composition. 25 hours, fourth year. Professor HAMLIN and Mr. HORNBOSTEL

20—Advanced architectural engineering—Practical examples in applied mechanics, treated both graphically and analytically. Problems in constructive design. 15 hours. 15 hours practice, fourth year. Professor BURR, Professor WOODWARD, and Mr. SNELLING

21—Advanced practice—The study of building processes. 2 hours, fourth year. Mr. WARREN

22—University course in architectural history and design. 27 hours. Professor WARE, Professor HAMLIN, and Mr. HORNBOSTEL

23—University course in architectural engineering and practice. 30 hours. Professor BURR, Professor WOODWARD, Mr. SNELLING, and Mr. WARREN

These two university courses are identical with the fourth-year elective courses 18, 19, 20, 21. They are open to graduates of colleges and scientific schools who are qualified to take them, and to experienced draughtsmen.

Properly qualified candidates are received as special students for periods of two months at a time.

Equipment

The equipment of the department consists of about 18,000 photographs, about 900 books, a classified library of prints and plates, the Avery Architectural Library of about 13,500 volumes, a collection of MS. drawings from the *École des Beaux-Arts*, a collection of casts of architectural details from ancient and modern Roman buildings, a collection of building-stones, tools, and materials, and about 7500 lantern-slides of architectural subjects. The Willard collection of architectural casts at the Metropolitan Museum is open to students every day and two evenings every week.

Astronomy

JOHN KROM REES, E.M., Ph.D. *Professor*
HAROLD JACOBY, Ph.D. *Adjunct Professor*
S. ALFRED MITCHELL, Ph.D. *Tutor*

GEORGE W. HILL, LL.D. *Lecturer on Celestial Mechanics*

Courses

1—General astronomy—This course is historical and descriptive, and is supplemented by visits to the observatory, where students are taught to locate the principal constellations, and are afforded opportunities to view the sun, moon,

planets, nebulæ, and stars. Reference books: Young's *General Astronomy*, Grant's *History of Physical Astronomy*, Clerke's *History of Astronomy during XIX Century*, and Clerke's *System of the Stars*. 2 hours. Professor REES, assisted by Dr. MITCHELL

Open to seniors in the College and to graduates. Offered as a minor for the degree of A.M.

2—Spherical and practical astronomy—This course consists mainly of the study and use of the sextant for time and latitude determinations, and of the transit instrument for time. Reference books: W. W. Campbell's *Hand-Book of Practical Astronomy*, Doolittle's *Practical Astronomy*. 2 hours lectures and 2 hours observatory work. Professor REES and Dr. MITCHELL

Open to seniors in the College who have taken Mathematics 6. Offered as a minor for the degree of A.M.

3—Geodesy—This course deals with the subjects named in the scheme of the Summer School in Geodesy. During the vacation the students are required to attend the summer school for six weeks to learn the use of apparatus, as indicated by the following:

Use of the nautical almanac and American ephemeris.
Sextant observations for time and latitude.
Transit instrument for time.
Base-line measurements.
Angle measurements by "directions."
Determination of the azimuth of a line.
Barometric hypsometry.

Reference books: Doolittle's *Practical Astronomy*, Clark's *Geodesy*, *United States Coast Survey Reports*, and Jordan's *Handbuch der Vermessungskunde*. 2 hours lectures first year and first half of the second year. Professors REES and JACOBY, and Dr. MITCHELL

Required of students in the Civil Engineering and in the Sanitary Engineering courses during third and fourth years. The third-year work is offered as a minor for the degree of A.M. The fourth year, including summer-school work, is offered as a major for the degree of A.M. Open to seniors who have taken Mathematics 6.

4—Advanced spherical and practical astronomy—This course deals with the subjects of time, latitude, and longitude; use of equatorial and of zenith telescopes. Reference books: Chauvenet's (2 vols.) *Spherical and Practical Astronomy*, and Doolittle's *Practical Astronomy*. 2 hours lectures and 4 hours observatory work for 2 years. Professor REES

First year offered as a major for the degree of A.M. or a minor for the degree of Ph.D Two years' work offered as a major for the degree of Ph.D.

5—Theoretical astronomy—This course deals mainly with the theory of comet orbits and their calculation. Reference books: Klinkerfues' *Theoretische Astronomie* and Oppolzer's *Bahnbestimmung*. 1 hour, supplemented by computations, for 2 years. Professor JACOBY

First year offered as a major for the degree of A.M. or a minor for the degree of Ph.D. Two years' work offered as a major for the degree of Ph.D.

6—Theory and method of reduction of photographic star plates—This course deals with the determination of star places from the photographic plates, and includes the subjects of stellar parallax and proper motion. 1 hour, with practical work, for 2 years. Professor JACOBY

First year offered as a major for the degree of A.M. or a minor for the degree of Ph.D. Two years' work offered as a major for the degree of Ph.D.

7—The method of least squares, with applications to astronomy and to geodesy. 1 hour for 1 year. Professors REES and JACOBY

Offered as a major for the degree of A.M. or a minor for the degree of Ph.D.

8—Lectures on celestial mechanics—Elementary course. Follows the historical or chronological method. 1 hour for 1 year. Dr. HILL

Open to seniors and to graduates as a minor for the degree of A.M.

9—Advanced course in celestial mechanics. 1 hour for 1 or 2 years. Dr. HILL

Open to graduates as a major or minor for the degree of Ph.D. Also as a major for the degree of A.M.

Equipment *

The apparatus of the department consists principally of the following:

The Rutherfurd equatorial of 13 inches aperture with a correcting lens for photography.
Three transit instruments.
Two fine clocks and several chronometers.
Three chronographs.
Three-inch zenith telescope by Wanschaff of Berlin.
Measuring machines for photographs by Rutherfurd and by Repsold.
Personal equation machine.
Base-measuring apparatus.
Theodolites by Wanschaff of Berlin and Saegmuller of Washington, D.C., with micrometer microscopes reading to a second of arc.

The Library of the University is well supplied with the books relating to the work of the department.

Bacteriology

(See page 148)

Botany

LUCIEN MARCUS UNDERWOOD, Ph.D. *Professor*
NATHANIEL LORD BRITTON, Ph.D. *Emeritus Professor*
HERBERT MAULE RICHARDS, S.D *Instructor*
CARLTON CLARENCE CURTIS, Ph.D *Tutor*
MARSHALL AVERY HOWE *Curator of the Herbarium*

* The observatory having been torn down, the astronomical instruments are dismounted. Only the transit and the zenith telescope are now in position.

The courses in Botany are arranged with the intention of giving a broad general knowledge of the subject during the first year, and permitting some degree of choice during the second year; for those who continue the work as a graduate subject, the widest possible range of subjects is open to the student's choice. Course 1 can be elected by any student who has reached the sophomore year, and if the subject be pursued consecutively for three years, the candidate will be ready to enter upon research work as a major subject. Two years would be sufficient for this preparation if the candidate elected two courses in Botany during the second year. Courses 1–4, or their equivalent, together with Course 5 or Course 7, according as the trend is toward morphology or physiology, form the necessary preparation for commencing a major subject in Botany. Course 1, with any two additional courses or an equivalent, will be required as the necessary preparation for commencing a minor subject in Botany. Minor graduate courses will be arranged after conference with the head of the department.

Auditors will be admitted to any courses for which they may be prepared.

Courses 9–15 are primarily for graduate students.

Courses

1—Elementary botany—The general biological features of plants and the outlines of the evolution of plant types are considered; special attention being given to the significance of morphological characters and the forces operative in their development. 2 laboratory sessions a week, including conferences. Professor UNDERWOOD and Dr. CURTIS

Open to those who have reached the sophomore year.

2—Comparative anatomy of vascular plants—An examination of the comparative morphology of the cell is followed by the study of the distribution of tissues, with special regard to their functions. 2 laboratory sessions a week, first half-year. Dr. CURTIS

Pre-requisite: Course 1, or its equivalent.

3—Plant physiology—a course in experimental physiology supplemented by selected readings and conferences. 2 laboratory sessions a week, first half-year. Dr. CURTIS

Pre-requisite: Course 1, or its equivalent.

NOTE—In this and other courses in vegetable physiology the nature of the work occasionally requires attendance at the laboratory at unusual times.

4—General morphology of cryptogams—Detailed study of some group or groups of the lower plants. 2 laboratory sessions a week, second half-year. Dr. HOWE

This course naturally follows Course 2, to complete an elective for the year. Pre-requisite: Course 1, or its equivalent.

5—Botanical problems—Illustrating advanced methods of fixing, imbedding, sectioning, and staining. 2 laboratory sessions a week, second half-year. Dr. CURTIS

Pre-requisite: Course 2.

6—Economic botany—Study of plants useful to man as food, medicine, timber, and fibre. 2 hours lecture, or the equivalent in the laboratory. Professor UNDERWOOD

Pre-requisite: Course 1, or its equivalent.

7—Plant physiology—A continuation of Course 3, but with the added prerequisite of Course 2. 1 lecture and 2 laboratory sessions, second half-year. Dr. CURTIS

8—Lectures on general botany—A brief systematic study of plant structure and function, and the characters and relations of the leading groups of plants. 2 lectures, assigned reading and laboratory work, first half-year. Professor UNDERWOOD

Required of first-year students in the School of Mines, and in the courses in Civil Engineering and Mining Engineering.

9—The natural families of flowering plants—Study of the diagnostic characters of the leading families in biological sequence. Reference books: Engler and Prantl's *Natürliche Pflanzenfamilien* and Baillon's *Histoire des Plantes*. 1 hour conference and 2 laboratory sessions. Professor UNDERWOOD

Pre-requisite: Course 2. Offered as a major for the degree of A.M. if preceded by Courses 1–5.

10—Special morphology of fungi—A study of the special morphology, polymorphism, and development of the fungi, including culture methods. Not less than 10 hours a week, including special field-work. Professor UNDERWOOD

Pre-requisite: Course 4. Offered as a major for the degree of A.M. if preceded by Courses 1–5.

11—Research in morphology—The investigation of special problems in morphology with particular relation to their bearings on phylogeny, and involving field and experimental work. Not less than 10 hours a week for three years (or with special work two summers in the field, two years). Professor UNDERWOOD

12—Research in plant physiology—Special problems connected with growth and nutrition will be assigned after conference. The department will provide ample facilities, however, in any special research that may be desired. Not less than 10 hours a week for three years (or with special work during two summers, two years). Dr. CURTIS

13—Comparative embryology—Beginning with the Angiosperms, the embryology of special forms is considered, tracing their ontogeny from the gametophyte to the differentiations of the primary systems of the sporophyte; this is followed by a similar study of types from lower classes in biological sequence. Not less than 10 hours a week for three years (or with special work during two summers, two years). Dr. CURTIS

14—Critical study of a family or genus of plants of not less than fifty species—The group may be selected from the entire range of the vegetable world, but will be selected with a view to the special opportunities for field observation or garden cultivation. Field, herbarium, and laboratory work. Not less than 10 hours a week for two years, with two summers in the field. Research. Professor UNDERWOOD

15—Collection, determination, and comparative study of the plants of some restricted area—Field, herbarium, and laboratory work. Not less than 10 hours for two years; field-work during two summers. Research. Professor UNDERWOOD

Courses 11–15 are offered as major courses for the degree of Ph.D. A proportionate amount of work in Courses 11–14 will be accepted as a major for the degree of A.M.

Equipment

The department of Botany occupies the third floor of Schermerhorn and the laboratories and lecture-rooms have been equipped specially for undergraduate work. A large general laboratory, lecture-room, library, and morphological and physiological laboratories are supplied with modern instruments for instruction and experiment. The courses of instruction are illustrated with extensive series of models, charts, and lantern-slides. Fresh material is supplied from the conservatory and aquaria. A sufficient number of standard works on the subject are reserved for students' use in the general laboratory, where they will be more directly available in connection with the laboratory practice.

By the agreement entered into between the University and the New York Botanical Garden, all the botanical collections and library of the University (except such as are needed for undergraduate work) are deposited in the Museum of the Botanical Garden; the Garden on its part furnishes all the needed facilities for research work in morphology, physiology, and taxonomy. This combination of forces not only places the department of Botany within reach of material equipment and collections not before available, but opens up facilities for advanced work under conditions that are not excelled. The graduate work has therefore been transferred to Bronx Park.

The Herbarium contains about 500,000 specimens, being one of the largest in America. It comprises: (1) The collections accumulated by Dr. Torrey, which came into the possession of the University at his death in 1873. (2) The collections of Prof. C. F. Meisner of Basle, Switzerland, presented to the University about the time of Dr. Torrey's death by Mr. John J. Crooke. (3) The collections of Dr. A. W. Chapman of Appalachicola, Florida, presented by Mr. Crooke at the same time; this contains the types illustrating Dr. Chapman's *Flora of the Southern United States*. (4) The moss collection of the late C. F. Austin. (5) The moss collection of the late Dr. J. G. Jaeger, acquired in 1893. (6) Miscellaneous accumulations of spermaphytes, since Dr. Torrey's death, now making up more than one third of the whole collection. (7) A large series of algæ and fungi (largely European exsiccatæ) recently acquired. The Herbarium is rich in types of species described by Dr. Torrey, Professor Meisner, Dr. Chapman, Dr. Asa Gray, Mr. Austin, Professor Britton, Dr. Rusby, Dr. Morong, Dr. J. K. Small, and others. The various collections are all arranged in a single series, but each sheet is identified by a designative label or stamp. There are also extensive collections of fruits, seeds, woods, and material illustrating economic botany, placed in cases and drawers.

The direct connection of the department of Botany and the New York Botanical Garden makes access available to the Ellis collection of fungi, the largest accumulation of North American plants of this series in existence, rich in types of American species, as well as extended series of European exsiccati. The private collection of the Professor of Botany, specially rich in pteridophytes, hepaticæ and basidiomycetous fungi, is also accessible for study. The entire aggregation of collections thus available for students is exceptionally full in every group of plants from slime moulds to composites, and offers facilities for reference second to none.

The portion of the University Library classified under botany is easily accessible from the laboratories in the library room of the New York Botanical Garden. It now contains about 4000 bound volumes, and about 5000 pamphlets and extracts. These numbers do not, however, represent the whole reference strength of the collection, for all general works, scientific journals, and publications of general scientific societies are shelved in the main library. All the regularly published journals devoted to botany are received, and the sets of most of them are complete.

Two series of publications are issued from the department: a quarto series known as the *Memoirs of the Department of Botany*, of which two volumes have been published; and the *Contributions*, in octavo, of which the seventh volume is nearly completed.

Chemistry

CHARLES F. CHANDLER, M.D., Ph.D., LL.D.....*Professor of Chemistry*
* PIERRE DE PEYSTER RICKETTS, E.M., Ph.D.....*Professor of Analytical Chemistry and Assaying*
CHARLES E. PELLEW, E.M.....*Adjunct Professor of Chemistry*
JAMES S. C. WELLS, Ph.D.....*Instructor in Analytical Chemistry* (*Qual.*)
HERMANN T. VULTÉ, Ph.D.....*Instructor in Chemistry* (*School of Medicine*)
EDMUND H. MILLER, Ph.D.....*Instructor in Analytical Chemistry* (*Quant.*) *and Assaying*
MARSTON T. BOGERT, A.B., Ph.B.....*Instructor in Organic Chemistry*
LOUIS H. LAUDY, Ph.D*Tutor in Chemistry*
JOHN ALEXANDER MATHEWS, M.S., Ph.D.....*Tutor in Chemistry* (*School of Medicine*)
MILTON C. WHITAKER, B.S.....*Tutor in Chemistry*
J. LIVINGSTON RUTGERS MORGAN, B.Sc., Ph.D., *Tutor in Chemical Philosophy and Chemical Physics*
SAMUEL A. TUCKER, Ph.B.....*Tutor in Industrial Chemistry*
LEON LAIZER WATTERS, B.S.....*Assistant in Chemistry* (*School of Medicine*)
VICTOR LENHER, Ph.D..... ...*Assistant in Analytical Chemistry* (*Qual.*)
CAVALIER HARGRAVE JOUËT, Ph.D.....*Assistant in Analytical Chemistry* (*Quant.*)
BARRY HOGARTY, B.S.....*Assistant in Analytical Chemistry* (*Quant.*)
HENRY FISHER, B.S.....*Assistant in Analytical Chemistry* (*Assay*)
EMILIUS W. SCHERR, Jr., A.B.....*Assistant in Organic Chemistry*
HENRY C. SHERMAN, Ph.D.....*Lecturer in Analytical Chemistry*

Courses

1—General inorganic chemistry—Introduction. Laws of chemical combination, history, occurrence, preparation, and properties of the elements and their principal compounds. Text-book: Newth's *Inorganic Chemistry*. 3 lectures and 1 recitation throughout the year. Professor CHANDLER, Professor PELLEW, Dr. LAUDY, and Mr. WHITAKER

Required of all first-year students in the Schools of Mines, Chemistry, and Engineering. Open as an elective to all classes in Columbia College. 3 lectures throughout the year, with 2 afternoons in laboratory practice, either the first or second half-year. [Course 6.]

* Absent on leave.

Laboratory practice comprises the preparation, physical and chemical properties, and tests of the principal inorganic elements and compounds. Text-book: Williams' *Chemical Experiments, General and Analytical.* Professor PELLEW and Mr. WHITAKER

Required of Columbia College students who elect Chemistry 1.

2—General inorganic chemistry—Introduction. Laws of chemical combination, history, occurrence, preparation, and properties of the elements and their principal compounds. Text-book: Newth's *Inorganic Chemistry.* 2 lectures a week throughout the year. Given at the School of Medicine in West 59th Street. Professor PELLEW and Mr. WATTERS

Laboratory practice comprises the preparation, physical and chemical properties, and tests of the principal inorganic elements and compounds. Text-book: Pellew's *Laboratory Exercises in General Chemistry.* 2 afternoon exercises in the laboratory and 2 conferences a week for half the year. Half the class during the first half-year; the other half during the second half-year. Dr. VULTÉ, Dr. MATHEWS, and Mr. WATTERS

Required of first-year students in the School of Medicine. Open as an elective to seniors in Columbia College.

10—Advanced inorganic chemistry, with special reference to the rarer elements, and modern chemical theories. 1 lecture a week throughout the year, at 8.30 A.M. on Saturdays. Dr. VICTOR LENHER

Open to advanced students.

3—Physical chemistry—An introductory course in the theory of the behavior of substances in solution, as applied particularly to analytical methods. 2 hours a week in lectures and recitations, during the second half of the second year, and 1 afternoon a week in the laboratory. Text-books: Morgan's *Theory of Solution* and Ostwald's *Physico-chemical Measurements.* Dr. MORGAN

Required of all second-year students in the School of Chemistry. Open as an elective to seniors in Columbia College. Pre-requisite: Chemistry 1.

4—Physical chemistry—A course treating of the states of aggregation, solutions, and ions in analytical chemistry, thermo-chemistry, chemical mechanics, and electro-chemistry. 3 hours a week in lectures and recitations during the entire fourth year, and 1 afternoon a week in the laboratory during the first half-year. Text-books: Morgan's *Elements of Physical Chemistry* and Ostwald's *Physico-chemical Measurements.* Dr. MORGAN

Required of all fourth-year students in the School of Chemistry. Open as an elective to seniors in Columbia College, and to candidates for the degrees of A.M. and Ph.D. as a minor, or, with additional laboratory work, as a major subject. Pre-requisite: Chemistry 1.

5—Physical chemistry, advanced course. 2 lectures, and at least 12 hours a week in the laboratory throughout the year. Original investigation and reports of new work from the journals. Dr. MORGAN

Open to candidates for the degree of Ph.D. as a major subject. Pre-requisite: Chemistry 1 and 4.

6—Experimental chemistry—Conferences and laboratory practice. Text-book: Williams' *Chemical Experiments, General and Analytical.* 2 afternoons per week for either half-year. Professor PELLEW and Mr. WHITAKER

Required of Columbia College students who elect Course 1.

7—Qualitative analysis. Lectures, conferences, and laboratory practice. Text-book: Wells' *Inorganic Qualitative Chemical Analysis*. 2 lectures or conferences a week, and laboratory practice. Dr. WELLS, Dr. LENHER, and Mr. WHITAKER

The laboratory practice for chemists and metallurgists consists of 16 hours a week; for mining engineers, 13½ hours a week, during alternate weeks; for electrical engineers, 16 hours a week for alternate weeks; for mechanical engineers, 8½ hours a week for every week; civil engineers, 16 hours during alternate weeks.

Required of first-year students in the Schools of Mines, Chemistry, and Engineering. Open as an elective to sophomores, juniors, and seniors, in Columbia College. Pre-requisite: Course 1 or 2.

8—The spectroscope as applied to qualitative and quantitative analysis. Laboratory practice and conferences with the instructors. 8 hours a week for one half-year. Dr. WELLS

Open to candidates for the degree of A.M. as a minor. Pre-requisite: Courses 1, 6, and 7

9—Quantitative analysis. Text-books: Cairns' *Quantitative Analysis* and Fresenius' *Quantitative Analysis*. 4 hours lectures and recitations a week during the second year, and 15 hours laboratory practice. Dr. MILLER and Dr. JOUËT

The analyses made under this course are as follows; Magnesium sulphate, sodium or other chloride, potassium alum, iron ammonia alum, coal, iron ore, pig iron, spiegel, limestone, slag, feldspar, ores of zinc, copper, nickel, lead, chromium, arsenic, antimony, alloys, rocks, etc.

Required of second-year students in the School of Chemistry and the course in Metallurgy. Open to candidates for the degree of A.M. as a major. Pre-requisite: Courses 1, 6, and 7.

11—Quantitative analysis, inorganic (short course). Text-book: Miller's *Notes on Quantitative Analysis for Electrical Engineers*. 15 lectures, and 60 hours laboratory practice during the first half-year. Dr. SHERMAN and Mr. HOGARTY

The class is divided into two sections. The first section has 2 lectures a week for the first half of the first half-year from October 4th to November 22d, and laboratory work for 4 weeks from October 16th to November 13th. The second section has 2 lectures a week from November 28th to January 27th, and laboratory work from December 11th to January 22d.

The analyses included in this course are: Magnesium sulphate, potassium alum, coal, iron ore, copper, and zinc ore.

Required of second-year students in the course of Electrical Engineering. Pre-requisite: Courses 1, 6, and 7.

12—Quantitative analysis, inorganic. Text-book: Cairns' *Quantitative Analysis*. 2 lectures or conferences a week during first half of the second year; 1 a week during second half-year, with laboratory practice 15 hours a week in alternate weeks during the entire year. Dr. MILLER and Dr. JOUËT

The analyses included in this course are: Magnesium sulphate, potassium alum, iron ammonia alum, coal, iron ore, pig iron, spiegel, zinc ore, limestone, slag, and copper ore.

Required of second-year students in the courses of Mining Engineering. Pre-requisite: Courses 1, 6, and 7.

13—Quantitative analysis—Proximate organic analysis. 2 lectures, 2 recitations a week, and laboratory practice second half of the third year. Chemists, analytical and organic, 16 hours a week; chemists, industrial, 10 hours a week. Dr. SHERMAN

The analyses included in this course are: Fertilizers, soda ash, vinegar, and acetates, argol, baking powder, alcoholic beverages, flour, sugars, milk, butter, oils, soap, paints, asphalt, etc.

Required of third-year students in the School of Chemistry. Open to candidates for the degree of A.M. as a major. Pre-requisite: Course 9.

14—Special methods of commercial analysis. 2 lectures a week throughout the year. Laboratory practice during the first half-year for students taking the course in Metallurgy, and the second half-year for students in the course of Analytical Chemistry. Dr. MILLER and Dr. SHERMAN

Commercial analytical methods and practice connected with lead, zinc, iron, copper, and nickel metallurgy, fuels, building and paving materials, fertilizer manufacture, sugar-house work, oils, prepared foods, etc.

Required of fourth-year students in the courses of Analytical Chemistry and Metallurgy. Open to candidates for the degree of Ph.D. as a major, with laboratory work throughout the year. Pre-requisite: Course 9.

15—Special and advanced methods in proximate organic analysis. Research, conferences, and laboratory work at least 16 hours a week for one year. Dr. SHERMAN

Open to candidates for the degree of Ph.D. as a major. Pre-requisite: Courses 9 and 13.

16—Quantitative analysis, special or new methods, gravimetric, volumetric, or electrolytic. Conferences and laboratory work at least 16 hours a week for one or two years. Dr. MILLER

Open to candidates for the degrees of A.M. and Ph.D. as a major. Pre-requisite Course 9.

17—Assaying—Ores and metallurgical products. Text-book: Ricketts' and Miller's *Notes on Assaying*. 2 lectures, 1 recitation a week, and laboratory practice, during the first half-year for chemists and metallurgists; during the second half-year for mining engineers. Dr. MILLER and Mr. FISHER

The assays included in this course are: Preliminary (reagents, oxidizing and reducing forms of ore, etc.); lead, antimony, and tin ores; gold and silver ores, pure and impure, including galena, stibnite, arsenopyrite, blende, pyrite, etc.; also mattes and tailings. Also corrected assays and extraction tests, assay of gold, silver, and lead bullions.

Required of all third-year students in the courses of Mining Engineering, Metallurgy, and Chemistry. The laboratory work for the mining engineers includes 16 hours a week during the second half-year; for metallurgists and analytical and organic chemists, 16 hours a week during the first half-year; for industrial chemists, 11 hours a week during the first half-year. Open to candidates for the degrees of A.M. and Ph.D. as a minor.

18—Special methods of assaying ores, alloys, and furnace products—Comparison of methods and determination of losses. Conferences and laboratory work at least 8 hours a week for one half-year. Dr. MILLER

Open to candidates for the degree of A.M. or Ph.D. as a minor. Pre-requisite: Course 17.

20—Organic chemistry, elementary course—Subject treated in a popular manner. Instruction given on such important classes of compounds as the hydrocarbons, alcohols, ethers, organic acids, fats, waxes, soaps, cyanides, carbohydrates, alkaloids, coloring matters, drugs, perfumes, and the like. Text-book: Remsen's *Organic Chemistry*. 2 lectures and 1 recitation a week. Mr. BOGERT and Mr. SCHERR

Required of all second-year students in the School of Chemistry. Minor for the degree of A.M. Open to seniors in Columbia College, and to any other students in Columbia University who are properly qualified. Pre-requisite: Course 1, or its equivalent.

30—Organic chemistry, elementary laboratory course—Devoted to the preparation of such simple substances as chloroform, iodoform, ether, urea, nitrobenzole, aniline, acetanilid, sulphanilic acid, carbolic acid, salicylic acid, decomposition and recomposition of oil of wintergreen; perfumes, drugs, dyestuffs, flavoring principles, being represented in the series. The student also makes a number of elementary analyses and vapor-density determinations. Text-book: Noyes' *Organic Chemistry for the Laboratory*. 8 hours a week, both terms, in Organic Laboratory. Mr. BOGERT and Mr. SCHERR

Minor for the degree of A.M. Pre-requisite: Courses 1, 3, 7, 9, and 20 (or, it may be taken at the same time with Course 20).

21—General organic chemistry—A more thorough treatment of the subject, including discussion of all the more important classes of organic compounds. The student also prepares in the laboratory a large number of typical organic compounds, besides making elementary analyses and vapor-density determinations. Text-books: Bernthsen's *Kurzes Lehrbuch der organischen Chemie*, Richter's *Organic Chemistry*, and Gattermann's *Practical Methods of Organic Chemistry*. During the first half-year, 3 lectures, 1 recitation, and 20 hours laboratory a week for all fourth-year students in the School of Chemistry; 2 hours conferences additional a week for fourth-year students pursuing the course in Organic Chemistry, and for students taking the course as a major for A.M. During the second half-year, 2 lectures and 1 recitation a week, for fourth-year students pursuing the courses in Industrial or Analytical Chemistry; 2 hours conferences and 16 hours laboratory additional a week for fourth-year students pursuing the course in Organic Chemistry, and for students taking the course as a major for A.M. Mr. BOGERT and Mr. SCHERR

Required of all fourth-year students in the School of Chemistry. Major for the degree of A.M. Pre-requisite: Courses 1, 3, 7, 9, and 20.

22—Advanced organic chemistry, minor courses—Any one of the following subjects: (1) Physical properties of organic compounds as related to their molecular constitution; (2) Dissociation coefficients of organic acids; (3) The terpenes and camphors; (4) Synthetic alkaloids; (5) Synthetic perfumes; (6) Synthetic drugs; and such other subjects as may be selected. Personal instruction and laboratory work not less than 12 hours a week. Mr. BOGERT

Minor for the degree of Ph.D. Pre-requisite: Courses 1, 3, 7, 9, and 21.

23—Advanced organic chemistry, major course—Original investigation and research. Subject to be assigned or approved by the Instructor. Personal instruction, conferences, private study, and laboratory work. Mr. BOGERT

Major for the degree of Ph.D. Pre-requisite: Courses 1, 3, 7, 9, and 21.

24—Industrial chemistry, general course—The subjects discussed are :—(1 Air : nature, sources of contamination, sewer gas, plumbing, draining, disinfection, ventilation. (2) Water : composition of natural waters, pollution, disposal of sewage and house refuse. (3) Artificial illumination : candles, oils, and lamps, petroleum, gas and its products, electric light. (4) Limes, mortars, and cements. (5) Building-stones : decay and preservation. (6) Timber and its preservation : pigments, paints, essential oils, varnishes, preserving processes. (7) Explosives : gunpowder, gun-cotton, nitro-glycerine. (8) Glass and ceramics. (9) Electro-metallurgy. (10) Photography. Text-books : Park's *Hygiene* and Wagner's *Chemical Technology*. 3 lectures and 1 recitation a week. Professor CHANDLER and Professor PELLEW

Required of all second-year students in the Schools of Mines, Chemistry, and Engineering. Open to juniors and seniors in Columbia College. Pre-requisite : Course 1.

25—Industrial chemistry, special course—The subjects discussed are :—(1) Chemical manufactures : acids, alkalies, and salts. (*a*) Sulphur, sulphurous acid, hyposulphites, sulphuric acid, bisulphide of carbon. (*b*) Common salt, soda ash, hydrochloric acid, chlorine, binoxide of manganese, bleaching powder, chlorates, chlorimetry. (*c*) Carbonate of potash, caustic potash. (*d*) Nitric acid and nitrates. (*e*) Iodine, bromine. (*f*) Sodium, aluminium, magnesium. (*g*) Phosphorus, matches. (*h*) Ammonia salts. (*i*) Cyanides. (*j*) Alum, copperas, blue vitriol, salts of magnesia, baryta, strontia. (*k*) Borates, stannates, tungstates, chromates. (*l*) Salts of mercury and silver. (*m*) Oils, fats, soaps, and glycerine. (2) Food and drink : milk, cereals, starch, bread, meat, tea, coffee, sugar, fermentation, wine, beer, spirits, vinegar, preservation of food. (3) Clothing : textile fabrics, bleaching, dyeing, calico-printing ; paper, tanning, glue, india-rubber, guttapercha. (4) Fertilizers : guano, superphosphates, poudrettes. Text-books : Wagner's *Chemical Technology ;* Lunge's *Manufacture of Sulphuric Acid and Soda ;* Schultz' and Julius' *Kuenstlichen Organischen Farbstoffe ;* Schultz' *Chemie des Steinkehlontheers*. 3 lectures and 1 recitation for two years, one half the subject being discussed each year. Professor CHANDLER and Professor PELLEW

Required of third- and fourth-year students in the School of Chemistry. Pre-requisite : Course 24.

26—Industrial chemistry, laboratory practice—Preparation of chemicals, including solution, filtration, evaporation, crystallization, and distillation, as used in factory practice. 3 afternoons a week during the first half-year. Professor PELLEW and Mr. TUCKER

Required of all third-year students in the School of Chemistry. Open to juniors and seniors in Columbia College. Open as a minor to candidates for A.M. Pre-requisite : Course 1.

27—Industrial chemistry, laboratory practice—Special applications : Textile industry, vegetable and animal fibres, bleaching, dyeing, and calico-printing. 3 afternoons a week during the second half-year. Professor PELLEW and Mr. TUCKER

Required of third-year students taking the course in Industrial Chemistry, and of fourth-year students taking the courses in Analytical and in Organic Chemistry. Open to juniors and seniors in Columbia College. Minor for the degrees of A.M. and Ph.D. Pre-requisite : Course 1.

28—Industrial chemistry, laboratory practice—Special applications : Water pollution and purification ; photometry ; electro-metallurgy ; fermentation, yeast, beer, wine, spirits, alcohol. 5 afternoons a week during the second half-year. Professor PELLEW and Mr. TUCKER

Required of fourth-year students taking the course in Industrial Chemistry. Open to seniors in Columbia College. Minor for the degree of A.M. or Ph.D. Pre-requisite: Course 1.

29—Industrial chemistry, advanced course—Original research ; the study and investigation of methods and processes in sanitary and industrial chemistry. Personal instruction and laboratory work for one year. Professor PELLEW and Mr. TUCKER

Major for the degree of Ph.D. Pre-requisite: A knowledge of General, Analytical, and Industrial Chemistry.

Excursions and Summer Work

During the session the students will visit the chemical works, electrical and metallurgical establishments of the city and its environs.

At the end of the college year the students of the second and third classes attend a summer school in industrial chemistry, under the direction of the instructors in that subject, spending three weeks in visiting and carefully studying chemical works of special interest in and near the city, as well as gas works, petroleum refineries, sugar refineries, dyeing and calico-printing establishments, soap, candle, and oleomargarine works, paper mills, and plants for the purification of water and of sewage.

During the summer vacations drawings or memoirs, on subjects which will be assigned, are required, as well as reports upon chemical works and manufactories which will be visited in company with the instructors in industrial chemistry. The time specified for the completion and handing in of the memoirs is November 1st of each year.

The drawings or memoirs must be accompanied with translations, of greater or less length, from French and German text-books or scientific periodicals upon subjects assigned to each student.

Equipment

In Havemeyer the Chemical Department is provided with ample space for its museum, lecture-rooms, and laboratories, and every convenience has been provided for both the instructors and students working in the general or special courses.

There are five chemical lecture-rooms, all fully supplied with apparatus and instruments, and equipped with pneumatic troughs, gas, pressure, exhaust, and electricity. The large chemical lecture-room on the ground floor contains 316 seats. Underneath the rear of this room is situated a large storeroom for lecture apparatus, and connected with it are convenient rooms for preparing the lecture experiments.

The museum of General Inorganic and Organic Chemistry and of the chemical arts, a large and lofty room occupying the whole left wing of the ground floor, contains the elements and all their more important compounds ; represen-

tative sets of specimens of all classes of organic compounds ; materials and products illustrating the chemical arts, and numerous models, pictures, and diagrams illustrating the various branches of the science of chemistry.

The Qualitative and General Chemistry Laboratory is equipped with ninety-six desks, each divided into two sections, for use by different students, and each equipped with sink and water faucet, gas, exhaust, and electric light. The laboratory has been entirely refurnished with new and handsome sets of imported reagent bottles. In the General Chemistry Laboratory, the students of Columbia College and the other schools who select this course as an option, are taught, in a thorough manner, to prepare the more important elements and their inorganic compounds, and to study the principal physical and chemical properties of the same.

In the Qualitative Laboratory, principally used by the students in the Schools of Pure and Applied Science, the reactions of the various metals and salts are taught largely with a view to their separation and identification. The students first learn the properties of the individual members of a single group of acids or bases. Then single members or mixtures of members of this group are submitted to them for identification ; and finally, proceeding from simple to complex substances, they become able to determine the composition of the most difficult mixtures.

The Quantitative Laboratory is equipped with seventy-two desks, each one provided with gas, water, pressure, exhaust, and electricity, besides electric lights. The students first analyze substances of known composition, such as crystallized salts, so that they may constantly check the accuracy of their work by reference to the true percentage composition. Then they proceed to more complex analyses of materials that they would be apt to meet with in their actual practice, such as ores, metals, and minerals, and a great range of commercial articles, both organic and inorganic, such as gas, water, food products, and the like, which have been carefully analyzed so that the results of the students may be properly checked. Attached to the main laboratory is a large and well-equipped balance room, containing accurate balances, and special rooms, which are now being equipped with the latest and most improved apparatus for gas, water, and electrolytic analysis.

The Organic Laboratory contains forty large and commodious desks, each one provided with water, gas, pressure, exhaust, and electricity. The laboratory is also provided with high- and low-pressure steam, and with special rooms for balances, pressure ovens, glass-blowing, combustions, and for advanced work in various directions. It is thoroughly equipped with all necessary apparatus and instruments for the determination of boiling-points, melting-points, specific gravities, vapor densities, for proximate and elementary analyses, and for the synthetic preparation of organic compounds.

The Laboratory of Industrial Chemistry is planned for the instruction of students in the practical operations of chemical manufactures and chemical industries, and in the solution of various important problems in sanitary chemistry and hygiene. It is equipped for the manufacture of pure chemicals from their raw materials on an industrial scale, with fine batteries of steam evaporators, and with steam stills, centrifugals, filter presses, crushers, and the like.

It includes a dyeing laboratory supplied with a large stock of the most important natural and artificial dye-stuffs, and with all the regular equipment used in the practical testing of dyes, including a calico-printing machine. Connected with it is a photometer room, containing a new and complete outfit for the practical testing of illuminants. Among the other subjects in which practical instruction is to be given in this laboratory may be mentioned the filtration and purification of water and sewage, fermentation and distillation, the use of the electric furnace, and the manufacture of sugar, petroleum products, and leather.

The Laboratory of Physical Chemistry is well equipped with the most recent apparatus adapted to a wide range of experimental work in the branches of heat, light, and electricity as applied to chemical problems. The students take up the subject in the second year with special reference to the behavior of substances in solution. In their fourth year they resume the subject from a more advanced standpoint, and, with the aid of the higher mathematics, attack problems of broader range and greater difficulty. Towards the end of their course a simple original investigation is undertaken, which, if successful, is published by the student.

The Assay Laboratory is provided with crucible and muffle furnaces, both gas and coal, for the fire assay of ores; also with crushing, pulverizing, and sampling machinery, balance room, storeroom, and thirty-six well-equipped working desks. It also contains all the apparatus necessary for the wet assay of silver bullion and for laboratory tests of ores.

The Chemical Library in Havemeyer is supplied with a fair collection of chemical books and journals, and is open from 9.30 A.M. to 5.30 P.M. during term time.

Dermatology

GEORGE HENRY FOX, A.M., M.D. *Clinical Professor*
GEORGE THOMAS JACKSON, M.D. *Chief of Clinic*
CHARLES C. RANSOM, M.D. *Clinical Assistant*
JOHN CABOT, M.D *Clinical Assistant*
JOHN H. P. HODGSON, M.D. *Clinical Assistant*
JOHN ALDRICH, M.D. *Clinical Assistant*
CHARLES T. DADE, M.D. *Clinical Assistant*

Courses

1—Clinical lectures at the Vanderbilt Clinic upon the diseases of the skin—1 hour. Professor FOX

Required, in the fourth year, of candidates for the degree of M.D.

2—Practical instruction at the Vanderbilt Clinic in the diagnosis and treatment of the diseases of the skin—12 lessons for each student. Dr. JACKSON

Required, in the fourth year, of candidates for the degree of M.D.

Diseases of Children

ABRAHAM JACOBI, M.D., LL.D. *Clinical Professor*
FRANCIS HUBER, M.D. *Chief of Clinic*
JOSEPH HUBER, M.D *Clinical Assistant*
FERDINAND S. MCHALE, M.D. *Clinical Assistant*
LOUIS M. SILVER, M.D. *Clinical Assistant*
ALBERT F. BRUGMAN, M.D. *Clinical Assistant*

Courses

1—Clinical lectures at the Vanderbilt Clinic upon the diseases of children—1 hour. Professor JACOBI

Required, in the fourth year, of candidates for the degree of M.D.

2—Practical instruction at the Vanderbilt Clinic in the diagnosis and treatment of the diseases of children—10 lessons for each student. Dr. FRANCIS HUBER

Required, in the fourth year, of candidates for the degree of M.D.

3—Hospital Clinic—Roosevelt Hospital, Mondays and Thursdays at 5 P.M. from October to May. Professor JACOBI

Required.

Economics and Social Science

RICHMOND MAYO-SMITH, Ph.D. *Professor*
EDWIN R. A. SELIGMAN, LL.B., Ph.D. *Professor*
FRANKLIN HENRY GIDDINGS, Ph.D. *Professor*
JOHN BATES CLARK, Ph.D., LL.D. *Professor*
WILLIAM ZEBINA RIPLEY, Ph.D. *Prize Lecturer*
ARTHUR M. DAY, A.M. *Instructor*
GEORGE J. BAYLES, Ph.D. *Prize Lecturer*

The courses offered fall into two divisions: Political Economy and Finance, and Sociology and Statistics. Economics A and 1 are the general introductory courses primarily intended for juniors in the College. Economics 3 and 4 are intended to give a general survey, respectively, of political economy and finance, from the historical and comparative point of view. While serving as useful courses for those intending to specialize still further in economics or sociology, they are especially recommended to those who desire to secure some knowledge of political economy as a part of a liberal education. Economics 1 to 8 will be found of especial value to law students seeking to supplement their purely legal studies. Sociology 15 and 16 are introductory courses leading up to Course 20. Sociology 20 and 21 are the general systematic courses laying the basis for the other courses in applied sociology. Sociology 15 to 24, together with Economics 3, 8, 11, and 12, will be of value to students of theology who wish to extend their knowledge of the social problems of the day.

In addition to the regular courses, there are two seminars, organized to furnish students opportunity for special investigation and original research. Every candidate for the degree of Master of Arts or Doctor of Philosophy, taking his major subject in this department, must work in at least one of the seminars.

The allied courses in history and public law will be found extremely useful for the students of social science, because of the close inter-relations of history, law, and economics. Taken together, these courses constitute a complete scheme of political science.

Economics A is required of juniors in the College, and open to sophomores who have taken Economics 1. Economics 1 is open to juniors and qualified sophomores in the College. Economics 3, 4, 11, and 12, and Sociology 15 and 16, are open to seniors in the College and other candidates for the degree of Bachelor of Arts. The remaining courses are intended for university students.

Courses in Political Economy and Finance

A—Outlines of Economics—Recitations, lectures, and essays. 3 hours, second half-year. Professor MAYO-SMITH and Mr. DAY

1—Economic history of England and America—Selected text-books, recitations, essays, and lectures. 3 hours, first half-year. Professor SELIGMAN and Mr. DAY

3—Practical political economy—Lectures, discussions, and reading. 3 hours. Professor MAYO-SMITH

4—Science of finance—Lectures and private reading. 2 hours. Professor SELIGMAN

5—Fiscal and industrial history of the United States—Lectures and private reading. 2 hours, first half-year. Professor SELIGMAN

7—Railroad problems, economic, social, and legal—Lectures and private reading. 2 hours, second half-year. Professor SELIGMAN

8—History of political economy—Lectures, discussions, and readings. 2 hours. Professor SELIGMAN

Omitted in 1899-1900.

9—Economic theory I—The static laws of distribution—Lectures and private reading. 2 hours, first half-year. Professor CLARK

10—Economic theory II—The dynamic laws of distribution—Lectures and private reading. 2 hours, second half-year. Professor CLARK

11—Communistic and socialistic theories—Lectures and private reading. 2 hours, first half-year. Professor CLARK

12—Theories of social reform—Lectures and private reading. 2 hours, second half-year. Professor CLARK

14—Seminar in political economy and finance—For advanced students. 2 hours. Professors SELIGMAN and CLARK

Courses in Sociology and Statistics

15—Principles of sociology—Recitations, lectures, and collateral reading. 2 hours. Professor GIDDINGS

16—Racial Demography—Lectures and private reading. 2 hours, second half-year. Dr. RIPLEY

17—Statistics and sociology—Lectures, illustrations, and private reading. 2 hours, first half-year. Professor MAYO-SMITH

18—Statistics and economics—Lectures and private reading. 2 hours, second half-year. Professor MAYO-SMITH

Omitted in 1899-1900.

19—Theory of statistics—Lectures and private reading. 2 hours, second half-year. Professor MAYO-SMITH

20—General sociology—Lectures and private reading. 2 hours, first half-year. Professor GIDDINGS

21—Progress and democracy—Lectures and private reading. 2 hours, second half-year. Professor GIDDINGS

22—Pauperism, poor laws, and charities—Lectures and private reading. 2 hours, first half-year. Professor GIDDINGS

23—Crime and penology—Lectures and private reading. 2 hours, second half-year. Professor GIDDINGS

24—Civil aspects of ecclesiastical organization—Lectures and private reading. 1 hour, first half-year. Dr. BAYLES

29—Laboratory work in statistics—Exercises in analyzing, criticising, and tabulating statistics; in connection with Courses 17, 18, and 19. 2 hours, bi-weekly. Professor MAYO-SMITH

30—Seminar in sociology—2 hours, bi-weekly. Professor GIDDINGS

Equipment

The library facilities are unexcelled. Every journal of importance, American or foreign, dealing with economics or social science, is taken regularly by the Library. Any book needed by advanced students can usually be bought at once. The special library of history and political science alone comprises more than sixty-five thousand volumes.

Students of economics and social science will find New York to be a centre of library facilities unrivalled elsewhere in this country. In addition to the University Library, there are rich treasures at the New York Public Library on the Astor, Lenox, and Tilden foundation, New York Historical Library, Long Island Historical Library, Library of the Charity Organization Society, the Bar Association Library, and the Law Institute Library, to each of which students have access under favorable conditions. Advanced students also have at their disposal the library of the Professor of Political Economy and Finance, which contains the most complete collection of works on political economy to be found in the United States.

The facilities offered to students of sociology include a large library of general and special works, and unusual opportunities for field-work. A generous gift for works on sociology has provided a very complete equipment of publications on sociological theory, the history of the family, pauperism, crime, and

penology. Arrangements have been made with the Charity Organization Society, the State Charities Aid Association, the University Settlement, the East-Side House, and the Brooklyn Bureau of Charities by which students can become fully acquainted with actual work among the people and with the most perfect methods.

Education

(See page 153.)

Electrical Engineering

(See page 81.)

ENGINEERING

Civil Engineering

WILLIAM HUBERT BURR, C.E. *Professor*
EARL B. LOVELL, C.E *Adjunct Professor*
ADOLPH BLACK, C.E *Tutor*
LESLIE M. MCHARG, C.E. *Assistant*
*CHARLES DERLETH, Jr., B.S., C.E. *Lecturer*

The four-years' course leading to the degree of Civil Engineer is designed to afford a thorough analytical training, as well as numerous and extended practical exercises in those matters which pertain to the profession of the civil engineer, both in regard to all classes of structures and public works and in connection with the various developments and applications of power by the use of steam, electric, water, and air motors. This course is also designed to be an educational preparation for those duties or functions of an executive character, whose discharge in connection with the management of public or other works requires, or is rendered more efficient through, a thorough knowledge of civil engineering. The breadth and nature of this educational training adapts it no less efficiently to the purposes of those who intend to follow callings not of an engineering character, but which may be related more or less to manufacturing, to structural matters, or to the development and application of power. The theoretical portion of the instruction is based largely upon the courses given in the departments of Mathematics, Mechanics, and Physics, and the results obtained are applied to practical engineering work. Special stress is laid upon the design by the student of the various structures and machines which the civil engineer is called upon to construct in the practice of his profession. The instruction is given by lectures, demonstrations by the student, and frequent conferences, coordinate with which the work of design is continuously carried on. It covers comprehensively the subjects of surveying, road and railroad engineering, water supply of cities and towns, irrigation, sanitary engineering, including sewage disposal, both graphic and analytic treatment of all metallic structures, foundations, retaining and reservoir walls, high masonry dams, sewer systems, hydraulic engineering, rivers and harbors, pumping engines, hydraulic, steam, and electric motors.

* Professor Burr will be absent for a portion of the year, and during his absence Mr. Derleth will take his lectures.

Ample facilities are afforded for post-graduate students in civil engineering, and special students are admitted to the various engineering courses of the department upon evidence of proper qualifications.

Courses 1 to 17, inclusive, are required of all students in civil engineering. Courses 1, 5, 6, 15, 16, 17, are required of all students in mining engineering and metallurgy. Course 5 is required of all students in electrical engineering. All courses are open as electives to students who have had the requisite preparation to take them.

Courses

1—Theory of surveying—Pacing survey, contouring, and levelling by hand-level—Construction, use, and adjustment of instruments—Farm Survey—Theory of stadia measurement—Azimuth traverse—Repetition traverse—Polaris observations—Balancing survey. Reference book: Johnson's *Theory of Surveying*. 2 hours, second half of first year. Mr. BLACK

2—Road engineering—Surveys and location of roads—Drainage and grades—Foundations—Selection and treatment of materials—Telford and McAdam pavements—City pavements of brick, Belgian and granite blocks, asphalt, cement, and concrete—Machinery and tools required in the construction of roads and pavements—Maintenance of roads and pavements—Elements of expense and total cost of construction and maintenance. Reference book: Byrne's *Highway Construction*. 2 hours, first half of the second year. Mr. BLACK

3—Water-supply engineering and irrigation—Rainfall and storage—Flow of streams—Influence of soils, elevation, and geological character of water-shed—Methods of supply, gravitation, pumping from rivers or natural underground storage, flow from the latter—Reservoir construction—Sedimentation and filtration—Distributing system—House supply and wastage—Irrigation of land—Amounts and periods of application—Construction of and flow through division and distributing canals. Reference books: Fanning's *Water Supply*, *The Elements of Water Supply Engineering*, by E. Sherman Gould, and Wilson's *Irrigation Engineering*. Lectures and recitations. 2 hours, second half of the second year. Professor LOVELL

4—Masonry structures—Pressure and abutting power of earth—Design and construction of retaining walls—Stability of masonry structures in general—Stability of towers and chimneys under wind pressure—Theory and design of arches with vertical and inclined loads—Theory and design of reservoir walls, earth and high masonry dams—Cement, concrete, and masonry. Reference books: Cain's *Retaining Walls*, Baker's *Masonry and Foundations*, and Rankine's *Applied Mechanics*. 1 hour lectures during third year, with frequent conferences and continuous work in design. 2½ hours of problem and design work are required in the drawing academy. Professor LOVELL and Mr. BLACK

5—Elasticity and resistance of the materials of engineering—Laws of elasticity in homogeneous materials—Coefficients of elasticity—Relations between stresses and strains—Common and exact theories of torsion and flexure—Elastic limits, working stresses, and ultimate resistances of wrought-iron, cast-iron,

steel, alloys, timbers, building-stones, cement, concrete, and masonry—Complete treatment of simple and continuous beams—The design and construction of iron, steel, and timber columns and beams, including the design and construction of plate girders—Shafts—Cables—Fatigue of materials—Specifications. 3 hours lectures and recitations during the first half and 2 hours during the second half of the third year. 7½ hours first half-year and 5 hours second half-year of problem and design work, are required in the testing laboratory and drawing academy. Reference and text-book: Burr's *Elasticity and Resistance of Materials*. Professor BURR, Professor LOVELL, and Mr. MCHARG

6—Graphic statics—Equilibrium polygon, and polygonal frames for all systems of loads—Graphical representations of shears and moments for both non-continuous and continuous beams—Fixed and moving loads—Lines of influence—Applications to bridge and roof trusses. 2 hours lectures during the second half of the third year. 5 hours of problem and design work are required in the drawing academy. Mr. BLACK

7—Analytical theory of trusses—The truss element—Simple cantilever and non-continuous trusses with parallel chords—Fixed and moving loads—Through and deck spans—Positions of any system of concentrated moving loads for greatest chord and web stresses when chords are both parallel and not parallel—Combination of moment and graphic methods—Skew and irregular trusses—Applications to bridge and roof trusses—Braced arches and arched ribs. 2 hours lectures during the second half of the third year, with frequent conferences and problems in computations of stresses and preparation of stress sheets. 5 hours of problem and design work are required in the drawing academy. Reference and text-book: Burr's *Stresses in Bridge and Railway Trusses*. Mr. BLACK

8—Sewage disposal—Treatment and disposal of sewage and refuse of manufacturing—Sedimentation by gravity and by chemical precipitation—Treatment of effluent by continuous and intermittent sand filtration—Fertilization—Intermittent application to soil with under-drainage—Disposal of sludge—Theory and construction of sand filters—Plants for sewage treatment—Pollution of potable water and its purification by continuous and intermittent sand filtration—Design of sand filter for water purification. 2 hours lectures, first half of the third year. Professor BURR and Mr. BLACK

9—Railroad engineering—Economics of location, operation, and maintenance—Equating grades and curves—Estimating quantities and writing specification—Contracts—Track and switch work—Block and other systems of signalling—Buildings and structures—Organization. 3 hours lectures, half of first half and all of the second half of the fourth year. Reference books: Wellington's *Railway Location;* Tratman's *Railway Track and Track Work;* and *Block and Interlocking Signals*, W. H. Elliott. Professor LOVELL

10—The design and construction of bridges, roofs, and buildings—Railway and highway bridges—Pin and riveted connections—Single and multiple systems of bracing—The design of details for bridges, roofs, and buildings—Floors for railway and highway bridges—The design and operation of draw-bridges, including engines, locking, lifting, and turning machinery—Cantilever

structures—Wind loads and stresses—Single- and double-track viaducts or trestles in iron, steel, and timber—Lateral and transverse systems of bracing—The design and construction of elevated railroads—The complete designs of railway structures, with estimates of cost—The erection of iron, steel, and timber structures, including the cost of erection. 2 hours lectures and recitations, fourth year, with frequent conferences and continuous work in design. 5 hours of problem and design work are required in the drawing academy. First half-year only for sanitary engineers. Reference and text-book : Burr's *Stresses in Bridge and Railway Trusses*. Professor BURR and Mr. DERLETH

11—Foundations—Earth foundations—Foundations for buildings—Safe loads on masonry and foundation beds—Pile driving and pile foundations—Safe loads for piles—Protection and preservation of piles and timber—Sheet piling and coffer-dam methods—Pneumatic foundations and caisson work—Open dredging—Bridge piers of masonry and cylinders—Piers for deep foundations—Methods of working in quicksands—Tunnelling. Reference books : Patton's *Foundations* and Baker's *Masonry and Foundations*. 2 hours lectures, first half of fourth year, with frequent conferences and continuous work in design. 5 hours of problem and design work are required in the drawing academy. Professor BURR and Mr. DERLETH

12—Hydraulics—Flow of water through orifices—Time required for discharge of canal locks and similar volumes—Weir discharge and gauging by weirs—Gauging of water for systems of irrigation—Flow through and discharge of pipes—Design of pipe systems for city water-works—The Venturi meter—Flow in and discharge of open canals and rivers—Gauging of streams by current meters, floats, and other means—Backwater—Impulse of streams—The motion and flow of air and other gases in and through pipes and orifices. Reference book : Merriman's *Hydraulics*. 2 hours lectures during first half of fourth year, with laboratory work, frequent conferences, and problems. Professor BURR, Mr. DERLETH, and Mr. MCHARG

13—The design and construction of sewers and river and harbor improvements—Sewage and surface drainage of cities and towns—Separate and combined systems of sewers—Capacities of mains and branches—Catch basins—Manholes—Chimneys or ventilators—Flush tanks—Outfalls—Grades—Flow or discharge of sewers—Construction—Jetty system of river improvement—Scouring action of currents—Erosion of river banks—Dams for improvement of river navigation—Breakwaters—Dykes—Groins—Mattress work—Docks—Harbor works—Iron piers—Estimates of cost. 2 hours lectures, second half of fourth year, with frequent conferences. Professor BURR and Mr. DERLETH

14—Theory of railroad surveying—Simple, compound, and reversed curves—Transition curves—Cross-section work—Earthwork computations—Office work. Lectures and practical problems. 1 hour, third year. Reference books : Searle's *Field Engineering* and Crandall's *Transition Curve and Earthwork*. Professor LOVELL

The Summer School of Surveying

This school is conducted during ten to twelve weeks of each summer vacation at a point in the country near Litchfield, Conn., where ample facilities are

provided for all requisite operations, and where the topography is admirably adapted to the practical work of surveying. The operations at the summer school include the entire actual surveying of the department of Civil Engineering, together with such lectures, computations, and mapping as pertain to it. About six weeks' continuous attendance is required of each class between the first and second, and the second and third years, and four weeks between the third and fourth years. The school possesses an unusually full equipment of engineers' and solar transits, levels, plane tables, compasses, and all accessories and smaller instruments. A corps of special assistants for each session aid the regular officers of the school. At each session the following courses are given.

15—Surveying between the first and second years—Pacing, chaining, and ranging—Farm survey—Adjustment of instruments—Angle reading by repetition—Repetition traverse—Azimuth traverse. Daily lectures, field and office work. Mr. BLACK

16—Surveying between the second and third years—Levelling—Topographical survey with plane table—City surveys—Contour sketching. Daily lectures, field and office work. Professor LOVELL

17—Surveying between the third and fourth years—Railroad surveying—Reconnaissance—Preliminary survey—Location—Cross-sectioning—Computations—A complete survey and location of a line two to five miles long are made with all the attendant computations requisite for placing the work under contract. Daily lectures, field and office work. Professor LOVELL

Graduation Thesis

A satisfactory project or thesis is required of every candidate for the degree of Civil Engineer at graduation.

18—Sanitary engineering of buildings—Water-pipe systems—Treatment and disposition of all refuse and waste products—Trapping and ventilation of basins, closets, and sewer pipes—Drainage of buildings and building sites—Plumbing of buildings. 2 hours, first half second year.

19—General principles of hygiene and sanitary science—Effects of water supply on public health—Metallic pipes for water—Effects of impure air on health—Influence of conditions of soils on health—Remedial measures applicable to unsanitary conditions—Sewage air—Disposition of Sewage—Sanitary treatment of buildings—Contagious and other diseases. 2 hours, second half second year.

20—Heating and ventilation—General features of systems of heating and of ventilation—Steam heating—Hot-water heating—Heating with hot air—Hot-water circulation—Plant required in different systems of heating—Amounts of fresh air required in buildings devoted to various purposes—Modes of introducing fresh air and withdrawing foul air—Power for and capacities of systems of artificial ventilation—Complete designs for heating and ventilating plants. 2 hours, fourth year.

21—Drainage of country districts and towns—Requisite surveys—Effects of topography and character of materials—Surface and sub-surface waters—Disposal of drainage waters—Designs for drainage systems. 2 hours, second half fourth year.

University Courses

The minor subjects in the department of Civil Engineering for the university degrees of Master of Arts and Doctor of Philosophy are the following:

5—Elasticity and resistance of materials.

22—Foundations, including theory of earth pressure (Civil Engineering 11 with additional reading).

23—Hydraulics (Civil Engineering 12 with additional reading).

24—Long-span bridges. Conferences, with reading and design work, as required.

Open to those who have taken Civil Engineering 10.

25—Elastic and masonry arches. Conferences, with reading and design work, as required.

Open to those who have taken Civil Engineering 4.

The major subjects for the same university degrees are the following:

26—Sanitary engineering.

27—Hydraulic engineering, including the hydraulics of rivers and power plants and municipal water-works.

28—Municipal engineering, including water-works, sewers and sewage works, streets and other public works and their administration.

29—The engineering of structures, including long-span bridges and deep foundations, with methods of building them, and advanced work in elasticity and resistance of materials.

Equipment

The school possesses an unusually full equipment of engineers' and solar transits, levels, plane tables, compasses, and all accessories, as well as smaller instruments. Current meters, hook gauges, and floats of various types are also used in making observations on the flow in and discharge of rivers and canals. A complete set of sections of iron and steel shapes, models and photographs of engineering works, together with working plans of the latter, are in the department for the use of students. The hydraulic laboratory affords opportunity for the practical operations of measuring the discharge through weirs and other orifices, the flow through open channels and closed pipes, frictional and other resistances in pipes and open channels, as well as for meter gaugings, and for general hydraulic investigations. The testing work in the mechanical laboratory includes the complete tests of various structural materials in tension, compression, bending, and torsion, including the observation and digesting of all corresponding data.

A cement-testing laboratory is fully equipped with testing machines, briquette moulds, tanks, and other apparatus requisite for all classes of investigations in the nature and physical properties of cements and cement mortars.

All students are required to make and test briquettes of cement and cement mortar as well as to ascertain the weight, fineness, and other physical properties of such cement, sand, and mortar, as may be assigned to them for examination.

Students taking the course in Civil Engineering enjoy the use of the laboratories in all of the departments of the University in which they pursue courses of study, and their laboratory work in those departments is identical with that of students taking courses of engineering study in the same departments.

The Physical Laboratories are located in Fayerweather. The building is supplied with all ordinary facilities, including electricity for power and light, compressed air, and steam. In addition to such facilities there are a vertical shaft, with gas, electric, and water outlets at every ten feet of height; a constant temperature room, placed twelve feet below the surface of the ground; a platform on the roof for meteorological instruments and observations, with a recording room; an apparatus room and a number of laboratories of various kinds. In the latter are found elaborate outfits of instruments and appliances for complete and accurate laboratory operations in all branches of physical science.

The laboratories of the department of Mechanical Engineering are available for the various kinds of laboratory work required in connection with the courses of study pursued in the department of Mechanical Engineering.

The workshops used by the students in Civil Engineering are located in the Macy Manual Arts Building of the Teachers College. The locomotive laboratory, the steam and motive power engineering laboratory, the air and gas engine laboratory and hydraulic motors laboratory are all located in the large basement annex north of Engineering, and partly in Engineering and partly in the Power House. Their equipments include among other apparatus, as principal features, a triple-expansion Reynolds Allis Corliss steam-engine of 150 H. P.; a two-stage or compound steam air compressor; a De Laval steam turbine of 10 H. P.; a Wheeler surface condenser of 40 H. P. capacity; a pair of typical continuous rope drives on the American system, capable of transmitting 150 H. P.; a full-size passenger express locomotive engine of the Vauclain compound type; a duplex pumping engine of the triple-expansion low-pressure type; a second pump intended to operate against a pressure of 1500 pounds per square inch, and a third pump capable of working against a pressure of 5000 pounds per square inch.

Similarly the laboratories of the department of Electrical Engineering are available in all respects to the civil engineering students in those courses of study pursued in the department of Electrical Engineering. The electrical equipment is exceptionally complete in all the Electrical Engineering laboratories; it includes storage battery and photometer rooms; direct- and alternating-current machinery; dynamos; stationary and railway motors; motor dynamos; complete sets of ampere and volt meters, speed indicators; transmission and absorption dynamometers, as well as complete outfits of machine and hand tools and all the various electric apparatus and appliances used in all branches of electrical engineering.

In addition to the actual equipment of the school, a great variety of large engineering works is continually in process of construction in New York City

and vicinity, and the requisite steps are always taken to render them accessible to the students of the department for examination and study.

The library facilities consist of an extensive collection of foreign and domestic engineering books and periodicals, to which additions are being constantly made. This collection of engineering literature forms a part of the general library of the University, and is constantly available for both undergraduate and post-graduate study.

Electrical Engineering

FRANCIS B. CROCKER, E.M., Ph.D. *Professor*
GEORGE FRANCIS SEVER *Instructor*
FITZHUGH TOWNSEND, A.B., E.E. *Tutor*
C. SIDNEY AYLMER-SMALL, E.E. *Assistant*

The theoretical side of electrical engineering is treated by lectures delivered by Professor PUPIN of the department of Mechanics, under which head the various courses will be found. Mr. TOWNSEND assists the department of Mechanics by teaching Course 6 and part of Course 7 of that department.

See Mechanics 6, 7, 8, 9, 14, 14*a*, 15, 16, and 17.

Courses

1—Dynamo and motor practice—Principles, construction, operation, and design of dynamos and electric motors. Text-book: Crocker's *Electric Lighting*, vol i. 3 hours, first half-year. Professor CROCKER and Mr. SEVER

Required of all third-year students in Electrical and Mechanical Engineering. Pre-requisite: Course 7.

Course 1 with Courses 4 and 10 count together as a minor for the degree of A. M.

2—Electric power—Transmission and distribution of electric power, including the principles and applications of the direct-current, single-phase, and polyphase systems. 2 hours, first half-year. Professor CROCKER

Required of all fourth-year students in Electrical and Mechanical Engineering. Pre-requisite: Courses 1, 4 and 10.

Course 2 with Courses 11, 22, and 23 count together as a minor for the degree of A.M. Pre-requisite: Courses 1, 4, and 10.

3—Electrical engineering—Electrochemistry and electrometallurgy; including theory and applications of electrolysis and electrical heating; theory and practice of primary and secondary batteries; production, separation, and purification of metals and chemicals. 1 hour. Professor CROCKER

Required of all fourth-year students in Electrical and Mechanical (Course B) Engineering, Chemistry (Courses A, B, and C), and Metallurgy. Pre-requisite for electrical engineers: Course 7, Chemistry 7, and Mathematics 12; for mechanical engineers, Course 7, Chemistry 7, and Mathematics 12; for students in Chemistry (Course B), Course 5; for students in Chemistry (Courses A and C), Chemistry 13; for students in Metallurgy, Course 5.

4—Electric lighting—The design, installation, and operation of electric-lighting systems and plants, including a discussion of each of the various

elements and methods employed. Text-book: Crocker's *Electric Lighting*. 3 hours, second half-year. Professor CROCKER

Required of all third-year students in Electrical and Mechanical Engineering. Pre-requisite: Course 1.

Course 4 with Courses 1 and 10 count together as a minor for the degree of A. M.

5—Electrical engineering—The principles of electrical engineering and their application to general engineering. 1 hour lecture and 1 afternoon laboratory work, second half-year. Professor CROCKER

Required of all third-year students in Civil, Sanitary, and Mining Engineering, Chemistry (Course B), and Metallurgy. Pre-requisite: Physics 1.

6—Electrical engineering—Telegraphy and telephony. Text-books: Pope's *Modern Practice of the Electric Telegraph; Practical Telephone Hand-book*, Webb. 1 hour. Professor CROCKER

Required of all third-year students in Electrical and Mechanical (Course B) Engineering. Pre-requisite: Course 7.

7—Elements of electrical engineering—General electrical principles, laws, measurements, and the introduction to their applications, including the elements of the dynamo. Text-book: *Elementary Lessons in Electricity and Magnetism*, Thompson. 1 hour, first half-year; 2 hours, second half-year. Professor CROCKER and Mr. TOWNSEND

Required of all second-year students in Electrical, Mechanical, and Civil Engineering. Pre-requisite: Physics 1.

8—Electric railway—Special instruction in design, installation, and operation of the various systems of electric railways. 2 hours, second half-year. Mr. SEVER

Required of all fourth-year students in Electrical and Mechanical Engineering. Pre-requisite: Course 2.

10—Electrical engineering laboratory.

1. Practice in the accurate use of volt meters and ammeters for the measurements of E. M. F.'s, currents, and resistances.

2. Examination of, and report on, a dynamo and motor.

3. Direct current dynamos and motors.

(*a*) Measurement of the resistances of the various electrical circuits in a dynamo. Comparison of methods. Insulation tests. Determination of the heating limit under full-load conditions. Operation of various kinds of dynamos and motors. Investigation and measurement of counter E. M. F. in a motor.

(*b*) Determination of the efficiency of dynamos and motors by the use of transmission dynamometers and friction brakes. Use of electrical methods for the determination of the efficiencies of motors, dynamos, and motor-dynamos. Comparison of methods.

(*c*) Determination and plotting of the various characteristic curves of dynamos and motors, shunt, series, compound, and differential.

(*d*) Operation of the steam-engine, and use of the steam-engine indicator, in determining power of dynamos. 1 afternoon. Mr. SEVER

Required of all third-year students in Electrical and Mechanical Engineering. Pre-requisite: Course 7.

Course 10 with Courses 1 and 4 count together as a minor for the degree of A. M.

11—Alternating-current laboratory.

1. Practice in alternating-current measurements with commercial instruments.

2. Introductory experiments on the general properties of alternating-current circuits.

3. Determination, by various methods, of the efficiency of transformers. Determination of the values of the different losses.

4. Determination and plotting of curves of potential, current, and power, etc., under different conditions.

5. Operation of alternating-current generators and motors. Determination of their characteristic curves and other data concerning them. Brake and efficiency tests.

6. Experiments with polyphase currents. Construction of vector diagrams from actual determinations. Determination and plotting of the several potential, current, and power curves.

7. Experiments on various methods of transformation from one polyphase system into another. 3 afternoons, part of first and second half-years. Mr. SEVER, Mr. TOWNSEND, and Mr. AYLMER-SMALL

Required of all fourth-year students in Electrical and Mechanical (Course B) Engineering. Pre-requisite: Course 10. Mechanics 8 and 9 required as parallel Courses.

Course 11 with Courses 2, 22, and 23 count together as a minor for the degree of A. M. Pre-requisite: Courses 1, 4, and 10.

12—Electrical instrument laboratory.

Calibration of commercial measuring instruments and advanced electrical measurements, including self-induction, capacity, and magnetic measurements, as follows:

1. Calibration of direct and alternating-current ammeters and volt meters by various methods.

2. Standardization of watt-hour meters.

3. Measurements of inductance and capacity. (*a*) Comparison of inductances. (*b*) Determination of a co-efficient of self-induction. (*c*) Comparison of capacities. (*d*) Absolute determinations of capacity and self-induction.

4. Magnetic measurements. (*a*) Measurements relating to the magnetic leakage of a dynamo or motor. (*b*) Determination of the permeability of samples of iron and steel. (*c*) Measurement of hysteresis of samples of iron or steel by several methods. 3 afternoons, part of first half-year. Mr. TOWNSEND and Mr. AYLMER-SMALL

5. Practice in the management of storage batteries. Determination of their efficiency, capacity, and characteristic curves.

6. Practice in testing arc and incandescent lamps.

Required of all fourth-year students in Electrical Engineering. Pre-requisite: Course 10.

15—Dynamo and motor design.

Original design in detail with calculations and working drawings of a specially assigned dynamo or motor. 2 hours conference and 1 afternoon in drawing-room, second half-year.

Required of all third-year students in Electrical Engineering. Pre-requisite: Course 1.

22—Management of electrical plants—Economy in the design, construction, and operation of electrical stations, plants, and factories. Organization, administration, accounts, specifications, contracts, laws and insurance rules, accidents, patents, and statistics in relation to electrical work. 2 hours, second half-year. Professor CROCKER

Required of all fourth-year students in Electrical Engineering. Pre-requisite: Courses 2 and 23. Course 22 with Courses 2, 11, 21, and 23 count together as a minor for the degree of A.M. Pre-requisite: Physics 3 and Courses 1, 4, and 10.

23—Electrical distribution—Principles and methods of transmitting and distributing direct as well as alternating currents; series, parallel, and multiple wire systems; regulation of voltage and current; transformers; meters; arc and incandescent lamps. 2 hours, first half-year. Professor CROCKER

Required of all fourth-year students in Electrical Engineering. Pre-requisite: Course 4. Course 23 with Courses 2, 11, and 22 count together as a minor for the degree of A.M. Pre-requisite: Courses 1, 4, and 10.

Graduates of colleges or technical schools are admitted without examination as candidates for the degree of Electrical Engineer, provided their preparatory course of study has been sufficient.

It is possible for a graduate of a high-grade mechanical or other engineering course to obtain the degree of Electrical Engineer in one year. In such a case the student must have already passed the general and mechanical subjects of the entire course. These cover practically all the work of the first and second years of the Electrical Engineering course and nearly half of the third- and fourth-year subjects. The student may, therefore, be excused from these studies and can devote himself to the electrical subjects of the third and fourth years, which as far as possible are arranged to avoid conflicts.

Equipment

The offices, laboratories, lecture and other rooms of the Electrical Engineering department are in the south end of Engineering. In the sub-basement are located the storage-battery and photometer rooms. The former will contain a battery of 70 cells, to be used for efficiency and output tests and also as a source of steady potential and current. The photometer room is equipped with all necessary apparatus for determining the candle-power of arc and incandescent lamps as well as other sources of light. In the basement are situated the two machine laboratories, the larger containing the direct-current machinery, while the smaller accommodates the alternating-current apparatus. In the former, a 50 H. P., high-speed steam-engine drives a line shaft carrying pulleys controlled by friction clutches, to which the larger machines are belted. The arrangement of the engine and shaft is such that two dynamos of 30 kilo-watts each can be connected to the engine, or one dynamo connected to the engine, while the other is used as a motor to drive the line shaft, the current being obtained from the electric light and power plant of the University. In this way the breaking down of the motive power is rendered almost impossible and an excellent demonstration of the two methods of driving is made. The smaller machines are belted to a second line shaft, being mounted upon two long, heavy tables, which brings them to a convenient height and also affords space for instruments, note-books, and the like.

The various dynamos which are belted to the two shafts include examples of 115- and 500- volt constant potential generators, constant current arc-lighting dynamos, and other typical machines. Several types of stationary and railway motors, as well as motor-dynamos are also placed in this room. Machine and hand tools are provided in one corner of this laboratory for making and repairing apparatus, attachments, and the like. Complete sets of ampere and volt meters, speed indicators, and transmission and absorption dynamometers, are available for testing the various dynamos and motors. In the Mechanical Engineering Laboratory is placed an electric car of full size, completely equipped with motors and controlling apparatus. This is available for purposes of testing.

In the other machinery laboratory, the alternating-current apparatus is placed, including single-phase and polyphase generators, induction and synchronous motors, and various types and sizes of transformers. Each alternator is driven by a separate electric motor, enabling its speed to be independently regulated. Complete sets of alternating-current-measuring instruments and curve-tracing apparatus are also provided.

On the first floor are situated the smaller lecture-room (seating 70), ordinarily used for class work, and the larger lecture-room (seating 150) for combined classes. In Havemeyer, immediately adjoining, a still larger lecture-room (seating 350) is available for meetings and public lectures. All of these rooms are provided with an ample supply of electrical energy of different forms, as well as gas, water, and other facilities to enable experimental demonstrations to be conveniently and effectively performed. For example, dynamos, motors, and other apparatus of practical size are shown in actual operation to illustrate the lectures, this being made a special feature of the instruction.

The museum contains cases for the collection of apparatus, models, and materials relating to Electrical Engineering. This museum adjoins the lecture-rooms so that its contents can be conveniently used for illustrating the lectures.

On the third floor are located the large instrumental laboratory, the research room, and the studies of the officers. The laboratory contains a number of tables on which the instruments and apparatus are permanently set up ready for use. These include various forms of galvanometers, ampere balances, standard cells and resistances; apparatus for measuring inductance, magnetic permeability, hysteresis, and leakage; laboratory standard volt and ampere meters; The research room is used for special post-graduate and thesis work, and is fitted up according to the lines of investigation that are being followed.

A most important facility is the large and reliable supply of electric power which is afforded by the central power plant of the University. This consists of boilers having an aggregate capacity of 2000 H. P., two low-speed engines directly connected with two dynamos of 275 H. P. each, and two high-speed engines directly connected to two dynamos of 100 H. P. each. This electrical generating plant, having a total capacity of 750 H. P., and illustrating the latest and best practice in Electrical Engineering, furnishes current for electric lighting and for driving the motors and fans used in ventilating all of the buildings. Special conductors are also laid to convey to all the laboratories and lecture-rooms of the Electrical Engineering department an ample supply of current for experimental work. The power plant, on account of its

magnitude and completeness, gives the students excellent opportunities to study the general economy of generating mechanical and electrical energy, as well as the individual operation of the various parts under practical conditions.

There is also available for the use of the Electrical Engineering students, the Electrical Laboratory situated in the basement of Engineering, the work being carried on under the department of Mechanics.

Mechanical Engineering

FREDERIC R. HUTTON, C.E., Ph.D.....*Professor*
WILLIAM LEDYARD CATHCART.....*Adjunct Professor*
RALPH E. MAYER, C.E.....*Instructor*
IRA H. WOOLSON, E.M.....*Instructor*
OSCAR RAYMOND WILSON, M.E.....*Assistant*
SAMUEL O. MILLER, C.E.....*Assistant*
EDWARD L. COSTER.....*Assistant*
CHARLES P. BENNS, M.E.....*Instructor in Teachers College*
CHARLES C. SLEFFEL.....*Instructor in Teachers College*
CHARLES W. WEICK, B.S.....*Instructor in Teachers College*

Special students are admitted to the courses for which previous training may have fitted them. All courses intended for undergraduates in the Schools of Applied Science may be pursued by graduates of those or other schools of like grade and standing as graduates' courses, the instruction for such persons being carried further in specialization than the time available permits to candidates for undergraduate degrees. The instruction for such advanced students will be by prescribed reading, by problems assigned, and by work in the mechanical laboratories under individual instruction. These supplementary courses will vary in difficulty with the amount of time necessary according to the needs of the individual and the subject. Courses **10, 11, 12,** and **13** are pre-requisites for all graduate courses. Experimental investigation is a special feature of such work in Courses **10** to **17, 19, 24,** and **25.**

Courses

1—Elementary mechanical drawing—Use of instruments, elementary projections, descriptive geometry, graphics, and stereotomy. 2 hours lectures and 5 hours drawing academy, first year; two hours lectures and 5 hours drawing academy, second year. Messrs. MAYER and MILLER

2—Specialized engineering drawing—Topographical and geological charts and maps; working and isometric drawing of machinery, furnaces, and structural work. Tracing and blue printing and shop drawings. 2 hours lectures, 5 hours drawing academy, second year. Messrs. MAYER and MILLER

3 and **4**—First-year shop-work—Carpentry, framing, and joinery, first half-year; wood-turning, pattern-making, moulding, and foundry-work, second half-year. 1 hour conference for instruction, and the equivalent of two afternoons shop-practice in the shops of Teachers College. Mr. WEICK

5—First-summer shop-work—Pattern-making and foundry-work—100 hours in 3 weeks in June. Mr. WEICK

6—Second-year shop-work—Forging, management of fire, shaping, drawing, upsetting, swaging, welding, tempering, and die-forging. 1 hour conference, and four laboratory periods first half-year, and two periods for second half-year. Mr. SLEFFEL

7—Second-year shop-work — Bench-work, chipping, filing, tapping, and threading, pipe-threading, scraping, and fitting. Machine-tool work at lathe, planer, drill, shaper, milling machine, grinder, and turret-lathe. Assembling, erection, and rigger's work. 1 hour a week conference for instruction, and two laboratory periods, second half-year. Mr. BENNS

8—Second-summer shop-work—Machine-tool work continued. 100 hours in 3 weeks in June. Mr. BENNS

9—Third-year shop-work—Machine-tool work, with special appliances for rapid and economical production. 1 afternoon per week. Mr. BENNS

10—Properties of materials and alloys—Fabrication and mechanical treatment of iron, steel, and alloys ; ingot metals, steel castings, their composition, and their properties; rustless coatings, engineers' inspections, properties of alloys. General characteristics of timber for engineering uses ; inspection of lumber and timber ; preservative processes ; methods of testing materials. 2 hours, second half of second year, and first half of third year. Mr. WOOLSON

11—Engineering of power plants—Steam-engines and their mechanisms, rotary engines, the single-acting engine, the mechanical features and construction of the condensing, compound, and multiple-expansion engines. 1 hour lecture with recitation, second half-year. Professor HUTTON

12—The steam-engine and its accessories—The power plant continued. Engine valve-gear, details of construction, erection, and setting, piping, accessories, and repairs. 2 hours lectures and recitations, first half-year. Professor HUTTON

13—The steam boiler and its accessories—The power plant concluded. Typical forms, construction, accessories, wear and tear, repairs, tests, inspection, operation, and control. 2 hours lectures with recitations, second half-year. Professor HUTTON

14—Management and test of boilers—Laboratory and power-house practice, arranged at convenience, by squads of students.

Course 14, taken with 19, 20, 21, 23, and 28, forms a major for the degree of A.M.

15—Operation and tests of engines—Laboratory and power-house practice, arranged at convenience of instructors and students.

16—Testing materials of engineering—Clinical conferences and work in the laboratory with testing machines upon tensile, transverse, compressive, torsional, and other resistances of structural and other materials. Afternoon hours, alternating with mechanical and electrical laboratories and drawing-rooms. Messrs. WOOLSON and WILSON

Courses 16, 22, and 28 may be taken together as a minor for the degree of A.M.

17—Mechanical engineering laboratory—Calibration of indicators, tests of gauges, standardization of dynamometers, tests of efficiency of mechanisms, and losses in transmission of power. Afternoon hours, alternating with

testing and electrical laboratories and drawing-room. Messrs. WOOLSON and WILSON

Course 17, may be combined with 23, 24, and 28, or with 18, 24, and 28, and these, when taken together, constitute a minor for the degree of A.M. Course 17, combined with 21, 22, 25, 27, and 28, will constitute a major for the degree of A.M.

18—Machinery and mechanism—Motion, velocity, transmissive principles, conversion of motion, teeth of wheels, general mechanism. 2 hours lectures and recitations. Mr. WOOLSON

Courses 17, 18, 24, and 28 taken together form a minor for the degree of A.M. Courses 17, 18, 19, 20, 21, 24, and 25 form a major for the same degree.

19—Heat and its applications—Fuels for motive power, combustion, transfer of heat, heating surface, generation of steam, chimneys, artificial draft, smoke prevention, use of steam in engines, super-heating; gas- and air-engines, combined vapor engines, ammonia and other vapor engines, air-compressors, refrigerating machinery. 3 hours lectures and recitations first half of fourth year. Professor HUTTON

Course 19, taken with 24 and 28, forms a minor for the degree of A.M. Course 19, taken with 14, 20, 21, 23, and 28, forms a major for that degree.

20—Motors other than steam—Animal, water, wind, and wave motors; turbines. 1 hour lecture, second half-year. Professor HUTTON

21—Dynamics of motors—Work of motors, dynamometers, governors, regulators, inertia, friction, and efficiency. 1 hour lecture, second half-year. Professor HUTTON

Courses 20 and 21, taken together with 23, 25, 27, and 28, count as a minor for the degree of A.M.; with 14, 19, 23, and 28, they form a major for the same degree, and can also be combined with 25, 27, and 28, and with 24 and 28.

22—Engineering design and drawing—Graphic statics of structures and mechanism, proportion of parts of machines, shop and working drawings. 1 hour, and afternoon work in drawing-room. Professor CATHCART

See also under 16 and 17.

23—Valve-gearing for engines—Common valve-gear, polar diagram design, link-motions, cam-gears; variable cut-off mechanisms. 1 hour per week first half-year, and afternoon work in drawing-room. Professor CATHCART

See also under 14, 17, and 20.

24—Heat and steam-engineering laboratory—Tests upon the experimental steam-engine and air-compressor and air-engines; indicator and dynamometer work; determinations of heat units and water consumption, from theory and experiment. Afternoon hours, alternating with hydraulic and electrical laboratories and thesis work. Professor CATHCART and assistants

See also under 17, 19, 21, and 26.

25—Hydraulic engineering and motors laboratory—Verification of hydraulic formulæ for friction and efflux; tests of motors and hydraulic machines. Afternoon hours alternating with mechanical and electrical laboratories and thesis work. Professor CATHCART and assistants

See also under 17, 20, and 21.

26—Railway motive power and machinery—Types of locomotive engine, boiler, mechanism, running gear, compound locomotives, design and performance in hauling loads; accessory features to the motive power; railway machinery. 3 hours lectures, first part of first half-year. Professor HUTTON and Mr. COSTER

Courses 24, 26, and 28 taken together form a minor for the degree of A.M.

27—Pumps, pumping, and special engines—Construction mechanisms, designs, types, valves, erection, management, efficiency, duty; special forms of steam-engine for special duty. Special course of lectures, second part of second half-year. Professor HUTTON

28—Steam-engine design and advanced drawing. 2 hours. Professor CATHCART

See also under 17 and 21.

29—Shop and factory organization and management. 1 hour lecture. Professor HUTTON and Mr. BENNS

30—Workshop economics and specifications—Cost of manufacture, shop accounts, wage systems; specifications for economical manufacture. 1 hour lecture. Professor HUTTON

31—Marine engine design. (To be organized.)

32—Naval architecture. (To be organized.)

33—Ship-building. (To be organized.)

34—Marine auxiliaries. (To be organized.)

35—Vacation class in mechanical engineering—During the latter half of the school year visits are made to shops, factories, iron and steel works, and pumping stations, for the study of practice in these lines. The time occupied is variable according to circumstances. The instruction is conducted by Professor HUTTON and Assistants.

Optional.

36—Summer work between first and second years—Memoir or drawings.

37—Summer work between second and third years—Memoir or drawings.

38—Summer work between third and fourth years—Memoir, test, report, or special laboratory work as may be directed in each case by the Professor of Mechanical Engineering.

39—Graduation theses.

40—Special problems and original investigations in advanced mechanical engineering with conferences, laboratory work, and design as required. Prerequisite: all the courses offered in the department of Mechanical Engineering. Major for the degree of Ph.D.

41—Machine design — Resistance of materials to tension, compression, shearing, buckling, flexure, and torsion; relation of stresses and strains; elastic limits, resilience; coefficients of resistance, fibre, strain, and modulus

of elasticity; working stresses, factors of safety; fatigue of metals; analytical treatment of beams, columns, girders, and trusses. Design of machines and structures: riveted and bolted work and fastenings; journals and bearings, axles and shafting; linkages, chains, cables, hooks, and fastenings; machine parts, cranks, connecting-rods, pressure organs, valves, fly-wheels, pulleys, etc. Specifications for machines. 3 hours a week lectures and recitations during the third year, and 2 afternoons per week in problems and design in the drawing-room, with drill in the use of the slide rule in calculations. Reference and text-books: *Reuleaux Constructor* (Suplee's translation), and Merriman's *Mechanics of Materials*. Professor CATHCART

Equipment

The department of Mechanical Engineering both has its own special equipment, and also enjoys the admirable and complete equipment of other departments for the use of its students.

THE WORKSHOPS are located in the Macy Manual Arts Building of Teachers College, 120th Street, and may be generally divided into two groups, each having a capacity for twenty workers at one time. The wood-working course is planned to lead up to pattern-making and foundry-work. The equipment includes usual benches for joinery and pattern-making with the necessary hand-tools, and for wood-turning a fine outfit of speed-lathes with their appurtenances. The foundry division has facilities for bench and floor moulding, and for limited work with sweeps. A carpenter shop with ordinary saw-benches, planers, and tools for profile-sawing is available for working up stock and special appliances.

The second division includes the shops for metal-working. For blacksmith work and forging are twenty Buffalo forges with anvils, tools, and vises. Blast is furnished by pressure blowers, and the hot gases and smoke are drawn out through exhaust hoods by a fan. A 30-pound Bradley power-hammer and a 400-pound Billings and Spencer drop-press are used to illustrate and enforce the application of the forge processes to manufacturing.

For metal-working by hand a special shop is equipped with vises for chipping, filing, scraping, and general bench-work. For machine-tool work a handsome and well-equipped shop contains engine-lathes, swinging from twelve to twenty inches, planers, shapers, drill-presses, universal milling machine, universal grinding machines, and the subsidiary appliances of the machine shop. A Jones and Lamson flat turret-lathe is used to familiarize the student with modern methods of rapid and economical production, and he is expected to learn its use in manufacturing processes. The tool-room is administered according to advanced standards in these matters, and a regular shop organization and atmosphere is aimed at. The department has also an amateur's lathe, the gift of friends to the University, with unusual attachments in the way of chucks, dividing head, and the like.

THE MECHANICAL LABORATORIES, properly so called, are located partly in the great basement annex area north of Engineering and beneath the esplanade in front of Havemeyer, partly in Engineering, and partly in the great Power

House. Their area exceeds 9000 square feet, giving a length in one span of over 210 feet and a width of 32 and 35 feet. The five subdivisions are, respectively, the Locomotive Laboratory, the Steam and Motive-Power Engineering Laboratories, the Air- and Gas-Engine Laboratory, the Hydraulic Motors Laboratory, and the Testing Laboratories.

The Testing Laboratories, located partly on the north end of the main floor of Engineering, are equipped with high-grade testing machines for tensile, transverse, torsion, and compression tests. Their designs are of diverse types to give wide experience in handling, and they are fitted with the best and newest appliances for observing and recording deformations of test-pieces. The Emery Testing Machine of 150,000 pounds capacity is a marvel of accuracy and sensitiveness, and is used as a standard of reference. The others of 50,000 pounds and 100,000 pounds capacity, respectively, are of the usual commercial types, and include Keep's series. Practical and scientific tests and investigations, such as arise in a great industrial centre like New York City, are continually in progress at the side of the work of the students.

The Steam and Motive-Power Engineering Laboratory occupies an area of 84 by 35 feet in the centre of the great laboratory space, and has been made a memorial to the late Edward P. Allis by the gift of the principal features of its equipment through the Messrs. Allis of Milwaukee. It contains a triple-expansion Reynolds Allis-Corliss steam-engine of 150 H.P., fitted with complete apparatus for condensing and weighing the steam used in tests. This engine is also the source of motive power for the other machinery. In addition, this steam-engine by an easy change can be coupled to additional air cylinders and thus will be transformed into a three-stage air compressor, fitted to compress air to 250 pounds pressure into proper storage reservoirs, thus permitting the engine to be converted into an experimental steam-engine of widest range of speed condition and capacity for test. The compressed air, moreover, can be stored and compressed a second time, or can be expended in a third engine, thus completing the cycle of transformations of energy. A two-stage or compound steam air compressor has also been presented to the laboratory by the Ingersoll-Sergeant Drill Co., having a capacity for compressing air to 100 pounds pressure. The steam cylinders are 10 and 17 inches, and the air cylinders 14¼ and 9¼ inches, with a common stroke of 12 inches. The compressed air from the engine is used for driving other motors for test of their operation, and in supplying a constant head for hydraulic machinery and for other uses.

The ordinary type of power-house engine is represented by engines designed and built by McIntosh and Seymour, the New York Safety Steam Power Co., the Westinghouse Engine Co., and others; special mechanisms are illustrated by engines of the oscillating type, and a fly-wheel pump; and a historic interest attaches to a unique engine built by the late Mr. John C. Hoadley in 1873 to incorporate his design of shaft governor. It can be operated either as a horizontal or a vertical engine. A De Laval steam turbine of 10 H. P. runs at the phenomenal speed of 25,000 turns per minute and is an interesting subject for test and experiment by the students. A Wheeler surface condenser of 40 H. P. capacity, a gift from its designer, Mr. F. M. Wheeler,

with its weighing tanks and scales, enables steam and heat consumption per unit of power to be observed and calculated in connection with these machines. Forming a part also of this section are the power-plant engines of other departments of the University, enumerated elsewhere in detail, which are available for test and experiment in their permanent locations as parts of the administrative plant. The machinery of transmission in this section, which carries power from the Allis engine or the McIntosh-Seymour engine, is a model plant presented to the laboratories as a memorial of the late Wallace H. Dodge by the Dodge Manufacturing Co. of Mishawaka, Ind. A pair of typical continuous rope-drives on the American system transmit 150 H. P. to a first or principal jack-shaft, fitted with clutches and usual appliances, and from this shaft to a secondary one is another transmission illustrating the action of reversible direction of the motor engine. These shafts are used as origin of motion for tests of machinery, efficiencies of transmission types of dynamometers, and similar expert work of students. Beside the usual belt and other standard transmission, this section has examples of clutches for test, and the friction gear of the Rockwood Co., of Indianapolis, presented to the laboratories by that Company; there are also dynamometers of the transmission and absorption types, and usual appliances for oil testing and speed recording. There are tachometers, anemometers, calorimeters, pyrometers, thermometers, and other weighing and measuring apparatus, together with a growing collection of steam-engine indicators and the fixtures for standardizing and calibrating them. The laboratory also exhibits a full line of steam-boiler injectors, mounted and connected to steam and water for display and experiment.

The Section of Direct-Combustion Engines, illustrating motors using other media than steam as heat-carrier, embraces two Otto gas engines, one of 10 H. P., purchased by the department, and one of 15 H. P., the gift of Mr. S. D. Coykendall of Rondout; a 10 H. P. Nash engine, a Hornsby-Akroyd oil engine, and an Ericsson and a Rider caloric pumping engine. This machinery is installed for the present in the Power House, and the section will be strengthened as opportunity may offer.

The Locomotive Laboratory, or Laboratory of Transportation Engineering, forms a unique and impressive department of the mechanical laboratories, by reason of the presence of the full-size passenger express locomotive engine "Columbia," presented to the department by the Baldwin Locomotive Works of Philadelphia. It is a standard-gauge engine, of the Vauclain compound type, having four cylinders, and a power represented by 1600 H. P. Its weight is sixty-three tons, of which eighty thousand pounds rests upon the four drivers and is available for adhesion and traction. It is mounted upon friction wheels, fitted with brakes and dynamometers, whereby it can be run at any speed in place up to sixty miles an hour by steam from its own boiler, while observations on tractive power, steam distribution, and coal and water consumption are conveniently made. The University is indebted to friends for the funds necessary to install and mount the engine and for the gift of many details in whole or in part. The great eight-inch bearings of the carrying wheels were obtained through Mr. George V. Cresson of Philadelphia; the supporting girders were gifts of the Carnegie Steel and Iron Co.; the

Ellis bumping post, or abutment, is the gift of the Mechanical Manufacturing Co. of Chicago ; the mechanical draft appliances, the gift of B. F. Sturtevant Co ; the rails, the gift of the Pennsylvania Steel Co. ; the ties, the gift of the N. Y. C. & H. R. R. R. Co., etc. Furthermore, the locomotive can be connected to the compressor of the Allis Laboratory, and can be operated as a compressed-air locomotive for test and experiment, up to 100 H. P.

By the generous interest of its builders, a standard trolley car, with electric motors, is installed at the side of the Baldwin locomotive, similarly mounted for operation and test of their efficiency as means of applying and distributing energy from a central generating plant.

The hydraulic elevator in Engineering has been made, by the gift of Otis Brothers, a piece of laboratory apparatus of unique value, by being fitted with special facilities for the study of the mechanics and problems of hoisting. The ventilating machinery of the laboratory is also likely to be specially adapted for experiment and test in pneumatics by calibrated orifices, gauges, and similar appliances.

A fine glass mercury column with a height of 100 feet is to be installed in the elevator shaft when the latter is ready to receive it.

The Hydraulic Motors Laboratory, occupying a space of 67 feet long and 32 feet wide, is at the east end of the laboratory, and has been made a memorial gift by Mr. Charles C. Worthington, and is known as the Henry R. Worthington Laboratory. It has great tanks below the floor level of 4000 and 7000 gallons capacity, which supply the pumping machinery, and into which the motors discharge. The first pumping engine is of the duplex triple-expansion low-pressure type, having a capacity of 1000 to 1500 gallons a minute against a head of 50 pounds pressure. The steam cylinders are 6, 9, and 16 inches diameter, and the water plungers 13 inches diameter, with a common stroke of 15 inches. The second pump has steam cylinders, $18\frac{1}{2}$ inches, and water plungers of 4 inches diameter, with a stroke of 10 inches, and is intended to pump against 1500 pounds pressure, which is maintained constant by a steam accumulator of 33 and $8\frac{1}{2}$ inches diameter, whose plunger has a motion of 5 feet. The third great pump, with steam cylinders of $14\frac{1}{2}$ inches and water cylinders of $1\frac{1}{2}$ inches respectively, and a common stroke of 10 inches, can pump against a maintained pressure of 5000 pounds per square inch, and has also its steam accumulator of 29 and $4\frac{1}{2}$ inches respectively, and a plunger motion of 4 feet. The lower pressure accumulator works horizontally, and the higher pressure one is arranged vertically. The low-pressure pump discharges into a welded steel cylindrical tank, within which controllable pressure is maintained from the air compressors, so as to do away with the usual standpipe for head of flow. The high-pressure pumps are supplied from an overhead suction tank fed by a 6- x $5\frac{3}{4}$- x 6-inch low-service pump, and for weir measurements a specially constructed weir-tank with baffles and calibrated measuring tanks should enable large scale observations to be made with hook-gauge readings closely accurate.

An 8-inch Venturi meter, the gift of the Builders' Iron Foundry of Providence, hydraulic rams, the gift of the Douglas Manufacturing Co. and of the Rife Hydraulic Engine Co., impulse water wheels of Pelton and Cazin type,

and a Leffel turbine have been recently supplemented by two large capacity centrifugal pumping machines. One is the gift of the Morris Machine Co. of Baldwinsville, N. Y., and has its directly coupled engine, and the other is the gift of the Lawrence Machine Co., through Mr. William O. Weber of Boston. Other motors will be added as circumstances permit.

The Power Plants of the University at the Morningside site, and at the College of Physicians and Surgeons, at 59th Street and Tenth Avenue, offer unusual facilities for test and investigations on a considerable scale, and add the strength of this administrative equipment to the distinctly laboratory equipment listed above. Students of mechanical engineering are permitted to have access to all this additional machinery.

The Drafting-Rooms on the top floor of Engineering are splendidly lighted and of very large extent, and are fitted not only with the best forms of drawing tables and furniture, but also with extensive collections of patterns, models, and illustrative drawings, blue prints, photographs, and prints, which are useful both as copies and for training in design. Sectional models of actual machines and structural material are abundant, and for the study of projection, stone-cutting, and warped surfaces, an unexcelled collection is at the service of students. A set of the Ollivier models, in which the elements of surfaces are represented by tense-threads, is a notable feature of these collections. In connection with the drafting-rooms is a room for blue printing and other solar work, and a photographic dark room.

The Cabinets or Museum Collections of Mechanical Engineering are located on the first or main floor of Engineering at the right of the entrance. They are subdivided into three groups or alcoves. In the first are exhibited models, specimens, and samples of the appliances and material referred to in the lectures on steam and motive-power engineering ; the second exhibits mechanisms, gearing, and appliances for the transmission of power and conversion of motion ; while the third is specially rich in specimens illustrating the properties of engineering materials, and particularly their behavior under strain, their methods of fracture, and the effects of corrosion, abrasion, impact, and the like. Some of these exhibits are unique. Much of similar illustrative material will be found also in drawing-room, class-rooms, and in the testing laboratory itself.

Lecture and Class-Room Illustration is effected by extensive use of material from the collections, and of photographs exhibited as lantern-slides by projection in an illuminated room, by drawings and blue prints, and by electrotype prints and wall diagrams. Great service is made also of typewritten monographs and notes manifolded and distributed to the student.

Summer and Vacation Work

To derive the advantages possible from continuous work in the shop, two summer classes are maintained, each covering about one hundred working hours, beginning June 1. If necessary another similar term will be arranged for September. These form parts of the regular shop-work course of Mechanical Engineering, but are also intended to permit students from other schools,

where these facilities are lacking, to comply with the requirements of the regular course by extra application and overtime work.

During the session, and on occasional holidays, students are given opportunities to visit engineering works, machine shops, factories, and industrial establishments in the city and its environs. More elaborate excursions are arranged for the late years to special places or districts, under the supervision of the professors or instructors. The summer between third and fourth years is intended to be specially used for work in connection with the final thesis, or in tests, or in actual running of machinery.

ENGLISH

English Language and Literature

THOMAS RANDOLPH PRICE, M.A., LL.D.....*Professor*
GEORGE EDWARD WOODBERRY, A.B.....*Professor*
BRANDER MATTHEWS, LL.B., D.C.L.....*Professor*
LEWIS NATHANIEL CHASE, A.M.....*Assistant*

Course 1 is open to freshmen.

Course 2 is open to sophomores, juniors, and seniors.

Course 11 is open to sophomores, juniors, and seniors.

Course 13 is open to juniors and seniors.

Courses 3 and 4 are open to students that have taken Course 2 or are taking that course.

Courses 2, 3, 4, 14, 15, 16, and 17 are intended primarily for candidates for the degree of Bachelor of Arts, and may not be counted by themselves towards the degree of Master of Arts or Doctor of Philosophy.

Courses 5, 6, 7, 8, and 10 are open to graduates and also to women and to auditors.

Courses

1—General history of literature—Lectures with study of texts. 3 hours. Professor WOODBERRY

Not given in 1899-1900.

2—Anglo-Saxon language and historical English grammar. 2 hours. Mr. CHASE

3—Anglo-Saxon literature—poetry and prose. 2 hours. Professor PRICE

4—Chaucer—language, versification, and method of narrative poetry. 2 hours. Professor PRICE

5—English language and literature of the eleventh, twelfth, and thirteenth centuries—Reading of authors, with investigation of special questions and writing of essays. 2 hours. Professor PRICE

6—English language and literature of the fourteenth century exclusive of Chaucer, and of the fifteenth century—Reading of authors, with investigation of special questions and writing of essays. 2 hours. Professor PRICE

Not given in 1899-1900.

7—English language and literature of the sixteenth century—Reading of authors, with investigation of special questions and writing of essays. 2 hours. Professor PRICE

Not given in 1899–1900.

Courses 5, 6, and 7, designed for the careful study of the language and literature of early and middle English periods, will be given successively in 1899–1900, 1900–01, and 1901–2.

8—Anglo-Saxon prose and historical English syntax.—Text: Prose in Sweet, Bright, and Grein. Investigation of special questions and writing of essays. 2 hours. Professor PRICE

Not given in 1899–1900.

10—English verse forms—Study of their historical development. 2 hours. Professor PRICE

Not given in 1899–1900.

11—The history of English literature from 1789 to the death of Tennyson—Lectures. 3 hours. Professor WOODBERRY

12—The history of English literature from 1660 to 1789—Lectures. 3 hours. Professor WOODBERRY

Not given in 1899–1900.

13—The history of English literature from the birth of Shakspere to 1660, with special attention to the origin of the drama in England and to the poems of Spenser and Milton. 3 hours. Professor WOODBERRY

Courses 12 and 13 are given in alternate years.

14—Pope—Language, versification, and poetical method.—Text: Ward's edition of Pope's Works. 2 hours. Professor PRICE

15—Shakspere—Language, versification, and method of dramatic poetry.—Text: Cambridge text of Shakspere. 2 hours. Professor PRICE

Not given in 1899–1900.

16—American literature. 2 hours.

First half-year, Professor BRANDER MATTHEWS

Second half-year, Professor G. R. CARPENTER

17—The Poetry, lyrical, narrative, and dramatic, of Tennyson, Browning, and Matthew Arnold. 2 hours. Professor PRICE

Literature

GEORGE EDWARD WOODBERRY, A.B.....*Professor*
BRANDER MATTHEWS, LL.B., D.C.L.....*Professor*
JOEL ELIAS SPINGARN, Ph.D.....*Assistant*
JOHN GARRETT UNDERHILL, Ph.D.....*Assistant*
LEWIS NATHANIEL CHASE, A.M.....*Assistant*

Course 1 is open to seniors in Columbia College and to university students. It may not by itself be counted for the degree of Master of Arts or Doctor of Philosophy. Course 2 is open to juniors who have taken English 13, and to seniors in Columbia College and to university students. It cannot be counted

for the degree of Master of Arts or Doctor of Philosophy. Courses 3, 4, 5, 6, are open to university students only. Course 7 is open to seniors who have taken English 13 or Literature 2. Courses 7, 12, 13, 14, and 15 are open to university students and to auditors and to women on the same terms as to men.

Courses

1—The history of modern fiction. 2 hours. Professor BRANDER MATTHEWS

Not given in 1899–1900.

2—The theory, history, and practice of criticism, with special attention to Aristotle, Boileau, Lessing, and English and later French writers, and a study of the great works of the imagination. 3 hours. Professor WOODBERRY

3—Epochs of the drama—Greek, Latin, Spanish, English, French, German, Scandinavian. 3 hours. First half-year only. Professor BRANDER MATTHEWS

4—Dramatists of the nineteenth century. 2 hours. Professor BRANDER MATTHEWS

Alternates with Course 3. Not given in 1899–1900.

5—Molière and modern comedy. 3 hours. First half-year only. Professor BRANDER MATTHEWS

6—The evolution of the essay. 1 hour. Professor BRANDER MATTHEWS

7—Studies in literature, mainly critical—selected works, in prose and verse, illustrating the character and development of national literatures. Lectures. 3 hours. Professor WOODBERRY

9—History of lyric poetry in the Middle Ages and the Renaissance. Dr. SPINGARN

12—Elements of Romanticism in English, French, and German Literature during the eighteenth century. 2 hours, second half-year. Dr. UNDERHILL

13—Elements of humanism in modern literature. 1 hour. Dr. SPINGARN

14—Literary relations between England and Spain in the Elizabethan age. 2 hours, first half-year. Dr. UNDERHILL

15—The origin and development of allegory in the Middle Ages and the Renaissance. 2 hours, second half-year. Dr. SPINGARN

Supplementary to Course 9.

Seminar in Literature. Professor WOODBERRY

Open to students who have taken Courses 7 and 9.

Seminar in the History of the Drama. Professor BRANDER MATTHEWS

Open to university students who take or have taken Courses 3, 4, or 5.

Rhetoric and English Composition

GEORGE RICE CARPENTER, A.B. *Professor*
WILLIAM TENNEY BREWSTER, A.M. *Tutor*
GEORGE C. D. ODELL, Ph.D. *Tutor*
FRANK SUTLIFF HACKETT, A.B. *Assistant*
PHILIP GREENLEAF CARLETON, A.B. *Assistant*
WELLINGTON PUTNAM *Lecturer in Elocution*

Courses

A—Rhetoric and English composition—Carpenter's *Exercises in Rhetoric and English Composition*. Recitations, weekly themes ; in the second half-year lectures on certain English and American authors as models of style. 3 hours. Dr. ODELL, Mr. BREWSTER, and Mr. HACKETT

Prescribed for freshmen in the College.

B—Practice in various kinds of English composition—Fletcher's *Introduction to Theme-Writing*. Fortnightly essays, lectures, and consultations. 1 hour. Mr. BREWSTER, Dr. ODELL, and Mr. HACKETT

Prescribed for sophomores in the College. Pre-requisite: Course **A**.

C—Argumentative composition. Four essays, consultations. Mr. CARLETON

Prescribed for juniors in the College who do not elect Courses 1 and 2, or Course 6. Pre-requisite : Course **B**.

1—English composition. Daily themes and fortnightly essays, lectures, and consultations. 3 hours, first half-year. Professor G. R. CARPENTER

Open as an elective to juniors and seniors in the College. Pre-requisite: Course **B**.

2—English composition. Lectures and discussions with regard to style ; essays and other written work. 3 hours, second half-year. Professor G. R. CARPENTER

Open as an elective to juniors and seniors in the College. Pre-requisite : Course **1**.

3—English composition (advanced course). Essays, lectures, and consultations. Dr. ODELL

Open as an elective to students who have taken Course 2 or its equivalent, and to auditors.

4—Elocution. Lectures and exercises. 2 hours. Mr. PUTNAM

Open to sophomores, juniors, and seniors in the College.

5—The art of English versification. Professor BRANDER MATTHEWS

Open to seniors in the College and to university students. Not given in 1899–1900.

6—Argumentative composition. Lectures, briefs, essays, and oral discussions. 3 hours. Mr. CARLETON and Mr. PUTNAM

Open to students who have taken Course B.

7—Seminar—Subjects for 1899–1900 : the theory of English usage ; entrance requirements in English. 2 hours. Professor G. R. CARPENTER

Open to seniors in the College, university students, and auditors.

8—English composition. 3 hours. Mr. BREWSTER

Open to freshmen who have passed the entrance examination in English, and, in addition, have passed an examination on Hill's *Foundations of Rhetoric*, Carpenter's *Exercises in Rhetoric and English Composition*, or an equivalent text-book. This course is equivalent to Courses **A** and **B**. Students passing in it are excused from Courses **A** and **B**.

French

(See page 168)

Genito-Urinary and Venereal Diseases

ROBERT W. TAYLOR, M.D. *Clinical Professor*
JAMES R. HAYDEN, M.D. *Chief of Clinic*
WILLIAM C. GILLEY, M.D. *Clinical Assistant*
EDMOND Y. HILL, M.D. *Clinical Assistant*
JOHN B. STEIN, M.D. *Clinical Assistant*
E. L. WILLIAMSON, M.D. *Clinical Assistant*
W. B. BROUNER, M.D. *Clinical Assistant*
C. C. RATHBONE, M.D. *Clinical Assistant*
W. D. TRENWITH, M.D. *Clinical Assistant*
S. W. FOWLER, M.D. *Clinical Assistant*
W. S. REYNOLDS, M.D. *Clinical Assistant*

Courses

1—Venereal and genito-urinary diseases—Clinical lectures at the Vanderbilt Clinic. 2 P.M., Thursday. 1 hour. Professor TAYLOR

Required, in the third year, of candidates for the degree of M.D.

2—Practical instruction at the Vanderbilt Clinic in the diagnosis and treatment of venereal and genito-urinary diseases—12 lessons for each student. Dr. HAYDEN

Required, in the third year, of candidates for the degree of M.D.

3—Hospital clinics in venereal and genito-urinary diseases—Bellevue Hospital, Tu. at 3.30 P.M. throughout the academic year. Professor TAYLOR

The Bellevue Hospital clinics are optional in the third and fourth years for candidates for the degree of M.D.

Geology

JAMES FURMAN KEMP, A.B., E.M. *Professor*
ALEXIS ANASTAY JULIEN, Ph.D. *Instructor in Geology and Curator*
ARTHUR HOLLICK, Ph.D. *Tutor*
GILBERT VAN INGEN. *Curator of the Geological Collections*

Courses

1—General geology—First half-year, physical geology, with practical work in the rock collections under the lithological part of the subject; second half-year, stratigraphical and historical geology, involving laboratory work with type fossils and collections illustrating the geology of the United States. Text-book: Le Conte's *Elements of Geology*. 2 hours lectures, including laboratory work. Dr. HOLLICK

Elective for juniors and seniors in the College.

2—General geology—A more elaborate discussion of the subjects treated in Course 1. Text-books: Scott's *Introduction to Geology* and Kemp's *Handbook of Rocks*. 3 hours lectures. Professor KEMP, Dr. JULIEN, and Mr. VAN INGEN

Required of all third-year students in the course in Civil Engineering; of second-year students in the School of Mines. Elective for seniors in the College who have not had Course 1.

3—Economic geology—First half-year, discussion of the general features and formation of ore bodies, followed by a description of the deposits of the ores of iron, copper, lead, zinc, silver, gold, and the lesser metals, with especial reference to North America; second half-year, a description of the distribution and occurrence of coal, petroleum, natural gas, asphalt, building-stone, water supply, salines, and minor minerals. Text-book: Kemp's *Ore Deposits of the United States*, and lecture notes privately printed. 3 hours lectures and conferences. Professor KEMP

Required of all third-year students in the School of Mines during 1898–99. Elective for seniors in the College who have had Course 1 or 2 or an equivalent. Open, with two additional hours weekly of collateral reading, to candidates for the degrees of A.M. and Ph.D. whose minor subject is Geology.

4—Petrography—A short course in the microscopic study of rocks. Follows Mineralogy 6. 2 lectures and one afternoon, two months of the second half-year. Professor KEMP and Dr. JULIEN

Required of second-year students in the School of Mines.

6—Petrology—A discussion of the origin, microscopic structure, and mineralogical composition of the crystalline rocks, and of metamorphism. 2 hours lectures, 4 hours or more laboratory. Professor KEMP

Pre-requisite: Optical Mineralogy.
Open to candidates for the degrees of A.M. and Ph.D. whose major or minor subject is Geology.

7—Invertebrate palæontology—A general description of invertebrate fossils, following the biological sequence. Text-books: Zittel-Eastman, *Elements of Palæontology*, and Nicholson's *Manual of Palæontology*. 2 hours lectures, 4 hours or more laboratory. Mr. VAN INGEN

Pre-requisite: Biology 1. Open to candidates for the degrees of A.M and Ph.D. whose major or minor subject is Geology.

8—Comparative geology—A comparative description and study of the geological formations of the globe, in their areal distributions and taxonomy. Text-books: *Correlation Bulletins of the U. S. Geological Survey*, Kayser's *Text-Book of Comparative Geology*, and the manuals of Geikie, Dana, and De Lapparent. 2 hours lectures and at least 4 hours reading and laboratory. Professor KEMP for the crystalline and pre-Cambrian rocks; Mr. VAN INGEN for the fossiliferous.

Open to candidates for the degrees of A.M. and Ph.D. whose major or minor subject is Geology.
Not given in 1899–1900.

9—Palæobotany—A study of fossil plants, following the biological sequence. Text-books: Zittel's *Handbuch der Palæontologie*, vol. ii., and Solms-Laubach's *Palæophytology*. 1 hour lecture or conference, 4 hours laboratory or reading for two years. Dr. HOLLICK

Pre-requisite: Botany 1. Open to candidates for the degrees of A.M. and Ph.D. whose major or minor subject is Geology.

10—Geological examinations and surveys. A discussion of the methods of systematically recording and interpreting geological phenomena; and of the

organization and scope of geological surveys on a larger scale. This will be followed by a sketch of the history and results of state and national geological surveys in this and other countries, and of other sources of detailed information regarding local geology. 1 hour. Professor KEMP, Mr. VAN INGEN

11—As a thesis subject which will furnish a major course for the concluding year of study for the degree of Doctor of Philosophy, some suitable subject will be assigned.

Summer School

12—The Trustees of the University have made an appropriation for a summer school in geology, which defrays the expenses of a small squad of advanced students for about one month each summer, with the Professor of Geology or some other officer of the department. During the college year, excursions are offered to points of geological interest near New York, on all Saturdays and holidays of the fall and spring. Few other localities afford so extensive and so accessible exposures as the vicinity of New York.

13—Field geology between the third and fourth years (*optional between the second and third years*)—The summer school in geology is held in connection with the summer school in practical mining, and at least one week is devoted to field work. Professor KEMP, Dr. HOLLICK, or Mr. VAN INGEN

Equipment

The department of Geology is located in the west wing of Schermerhorn, and occupies three floors. The museums and laboratories in palæontology are in the basement; the museum of economic geology is on the second floor, and the lecture-room, library, and main laboratory are on the third floor. The museums afford very complete series of illustrative material in the branches covered. The laboratory is also fully equipped with the collections and apparatus necessary to the pursuit of microscopic petrography. The library of the late Professor Newberry forms the principal part of the departmental library, and contains many rare books and pamphlets.

The University has an arrangement with the American Museum of Natural History which secures for advanced students especial privileges in its collections. As these contain among others the valuable and unique collection of Palæozoic fossils made by James Hall, the privilege is of especial consequence to students of palæontology.

Germanic Languages and Literatures

WILLIAM HENRY CARPENTER, Ph.D.....*Professor of Germanic Philology*
CALVIN THOMAS, A.M*Gebhard Professor of the Germanic Languages and Literatures*
EUGENE HOWARD BABBITT, A.B*Instructor*
WILLIAM ADDISON HERVEY, A.M.....*Tutor*
RUDOLF TOMBO, Ph.D.....*Tutor*
ARTHUR F. J. REMY, A.M.....*Assistant*

The department, as its name implies, offers instruction, not only in German, but in the kindred languages and literatures of the other members of the Germanic group. In German the aim of the instruction is primarily to enable

students to use the modern language with facility in reading, writing, and, as far as possible, in speaking, and to acquaint them with the masterpieces of German literature. Opportunity is also given to acquire a reading knowledge of the languages of the other Germanic nations, and to study their literatures. Parallel courses are arranged in such a way that while both language and literature are combined in the earlier courses, either side may be subsequently emphasized at will. Courses are also given in the philology of the whole Germanic group. Work supplementary to the lectures is given in the Seminar.

The courses offered by the department are grouped under the following heads: German, Scandinavian, Dutch, Gothic, and Germanic Philology.

Course A is required of freshmen in the College who did not present German at entrance and do not elect Course 1; Course 1 is equivalent to Course A plus a three-hour freshman elective; Course 2 is open to students who have presented elementary German at entrance; Courses 3, 4, and 5 are equivalent courses, open to students who have taken Course 1, 2, or the advanced entrance examination; Courses 6, 8, and 9 are open to students who have taken Course 3, 4, or an equivalent; Course 7 is open to students who have taken Course 6, or an equivalent; Course 19 is open to students who have taken Courses 6 and 9, or an equivalent; Courses 10, 11, 12, 13, 14, 15, 16, 17, 18, and 20 are open, with the permission of the instructor, to seniors; Courses A, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 are open to all university students. The Seminar is open to advanced students only.

Courses 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 are open to auditors.

Courses in German

A—Elementary course. Thomas, *Practical German Grammar;* Harris, *German Reader;* easy stories and plays. 3 hours. Mr. HERVEY and Dr. TOMBO

Prescribed for freshmen who did not present German at entrance.

1—Longer elementary course. 6 hours. Mr. BABBITT, Mr. HERVEY, and Dr. TOMBO

Equivalent to the prescribed German of the freshman year, and a three-hour freshman elective. First half-year identical with Course A; in second half-year more difficult prose, by such authors as Heine, Riehl, and Freytag.

Open to others than freshmen only by consent of the Dean and of the instructor in charge.

2—Grammar, reading, and composition. 3 hours. Mr. BABBITT and Dr. TOMBO

The text-books and plan of work are in general the same as those of the second half-year of Course 1.

Open to students who have presented elementary German at entrance.

Students who have taken Course 1 or 2 will be prepared to join Course 3, 4, or 5 at the beginning of the second year, either of which will be accepted as an equivalent of the reading knowledge of German required of candidates for the degree of Doctor of Philosophy in the school of Philosophy.

3—Selected works of Goethe, Schiller, and Lessing. Texts, chiefly dramatic, and essays. 3 hours. Mr. HERVEY

4—Historical prose. One volume of Freytag's *Bilder aus der deutschen Vergangenheit*, and other works of a historical or biographical character. 3 hours. Mr. BABBITT

5—Scientific German. Brandt and Day, *German Scientific Reading*, and various scientific monographs. 3 hours. Dr. TOMBO

3, 4, and 5 are equivalent courses, open to students who have taken Course 1, 2, or its equivalent.

6—History of German literature from the earliest times to the 19th century. Lectures, themes, and readings from Müller's *German Classics*. 2 hours. Professor THOMAS

Open to students who have taken Course 3, 4, or its equivalent.

7—Goethe's Faust: First and second parts. Lectures and recitations. 2 hours. Professor THOMAS

Open to students who have taken Course 6, or its equivalent.

8—Practice in speaking and writing German. Talks, conferences, and themes, all in German, upon linguistic and literary topics. 2 hours. Dr. TOMBO

Open to students who have taken Course 3, 4, or its equivalent.

9—History of the German language. Lectures and texts. 2 hours. Professor W. H. CARPENTER

Open to students who have taken Course 3, 4, or its equivalent.

10—Great German writers. Lessing (first half-year) and Goethe (second half-year). 2 hours. Professor THOMAS

Open, with the permission of the instructor, to seniors and to all university students.

11—Old High German. Lectures and texts. 2 hours. Professor W. H. CARPENTER

Open, with the permission of the instructor, to seniors and to all university students.

Old High German will be omitted in 1899–1900; it will be given in 1900–1901.

19—Teachers' Course. Lectures upon methods of teaching and cognate subjects (first half-year). 2 hours. Professor THOMAS and Mr. BABBITT

Second half-year identical with Education 17 in Teachers College.

Open to students who have taken Courses 6 and 9, or an equivalent.

20—Geschichte der deutschen Litteratur im 19 Jahrhundert. Vorlesungen in deutscher Sprache. 2 hours. Professor THOMAS

Open, with the permission of the instructor, to seniors, and to all university students.

Courses in Scandinavian

12—Swedish. Elementary course in the language, with miscellaneous reading, and a general survey in lectures of the history of Swedish literature. 2 hours. Professor THOMAS

Open, with the permission of the instructor, to seniors and to all university students.

Swedish will be omitted in 1899–1900; it will be given in 1900–1901.

13—Danish. Elementary course in the language, with miscellaneous reading, and a general survey in lectures of the history of Danish literature. 2 hours. Professor THOMAS

Open, with the permission of the instructor, to seniors and to all university students. Danish will be omitted in 1899–1900; it will be given in 1901–1902.

14—Icelandic. Elementary course. Kahle, *Altisländisches Elementarbuch.* 2 hours. Professor W. H. CARPENTER

Open, with the permission of the instructor, to seniors and to all university students.

15—Icelandic. Advanced course. The Völsunga Saga. Lectures and texts. Professor W. H. CARPENTER

Open, with the permission of the instructor, to seniors and to all university students. Advanced Icelandic will be omitted in 1899–1900, its place being taken by the elementary course; it will be given in 1900–1901.

Course in Dutch

16—Dutch. Elementary course in the language, with miscellaneous reading, and a general survey in lectures of the history of Dutch literature. 2 hours. Professor W. H. CARPENTER

Open, with the permission of the instructor, to seniors and to all university students. Dutch alternates with Swedish and Danish in a cycle of three years.

Course in Gothic

17—Gothic. Streitberg, *Gotisches Elementarbuch.* 2 hours. Professor W. H. CARPENTER

Open, with the permission of the instructor, to seniors and to all university students. Gothic is given every second year.

Course in Germanic Philology

18—General introduction to Germanic philology. Lectures and exercises. 2 hours. Professor W. H. CARPENTER

Open, with the permission of the instructor, to seniors and to all university students.

Seminar

Germanic Seminar—Middle High German. Critical study of Wolfram von Eschenbach's *Parzival* (first half-year). Literature of the Revolution of 1848 (second half-year). Professors W. H. CARPENTER and THOMAS

The Seminar is open to advanced students only. Attendance at the meetings is obligatory upon candidates for the degree of Doctor of Philosophy whose major subject lies in this department.

Public Lectures

A course of lectures in the German language on popular subjects, intended primarily for the students of the University, but to which the general public is also invited, is given yearly under the auspices of the department.

Equipment

The University Library offers excellent facilities for the study of German, both on the literary and the linguistic side. In German literature most periods are well represented. The Goethe collection, which consists of more than 1200 titles, affords to the student of Germany's greatest author an exceptional opportunity for the prosecution of his researches. The Scandinavian collection contains a fair representation of the ancient saga and poetical literature, and most of the eminent writers of modern Norway, Denmark, and Sweden.

The Library has sets and the current numbers of all the important periodicals which deal with Germanic literature and Germanic and general philology. It has also sets of periodicals no longer published, and a large collection of the transactions and publications of the learned societies of America and Europe.

The income of the Carl Schurz Library Fund ($10,000), presented by citizens of New York as a memorial of the seventieth birthday of Carl Schurz, is, by the terms of the gift, devoted in perpetuity to the purchase of books in the field of German language and literature.

Greek

(*Including Archæology and Epigraphy.*)

EDWARD DELAVAN PERRY, Ph.D. *Jay Professor*
JAMES RIGNALL WHEELER, Ph.D. *Professor*
CLARENCE HOFFMAN YOUNG, Ph.D. *Instructor*
JAMES DENNISON ROGERS, Ph.D. *Assistant*
MORTIMER LAMSON EARLE, Ph.D. *Lecturer*

Courses

Courses A, B, 1, 2, 3, 4, 5, 6, 7, 14, and 15 are closed to women. Courses 9, 10, 11, 12, 13, 17, 18, 19, 20, 21, 22, 24, 25, 30, and the Seminar are open to women on the same terms as to men. Women wishing to enter any of these courses, whether as special students or as candidates for a degree, must register through Barnard College.

Courses 9, 10, 11, 17, 18, 19, 20, 24, and 25 are open to auditors

A—Elementary course. 5 hours, counting as a three-hours course. Dr. ROGERS

Open to students who did not present Greek at entrance; to freshmen as an elective to others as an optional course. To be given only if elected by three or more students in full standing.

B—First half-year: Selected orations of Lysias. Second half-year: Homer's *Odyssey*, selections. Greek prose composition fortnightly throughout the year. 3 hours. Dr. YOUNG and Dr. ROGERS

Open as an elective to freshmen in Columbia College who presented Greek at entrance, and to sophomores who have taken Greek A; to others as an optional course.

1—Elements of Greek archæology. 2 hours, first half-year. Dr. YOUNG and Dr. ROGERS

Open as an elective to freshmen, sophomores, and juniors.

2—Course in sight-reading. 2 hours, second half-year. Professors PERRY and WHEELER and Dr. YOUNG

Open as an elective to freshmen, sophomores, and juniors.

3—First half-year : Euripides' *Iphigenia in Tauris ;* Sophocles' *Ajax ;* required reading (in English, French, or German, at the option of the student) and lectures on the Greek Drama. Second half-year : Demosthenes' *Olynthiac and Philippic Orations*, with required reading as above. 3 hours. Dr. YOUNG (first half-year) and Professor PERRY (second half-year)

Open as an elective to students in Columbia College who have taken Course B in the previous year.

An additional hour weekly in advanced Greek composition will be offered by Dr. ROGERS, and students who take this may count Course 3 as a four-hours course, or Course 4 as a three-hours course. Candidates for Honors in Classics are strongly urged to avail themselves of this opportunity.

4—Rapid reading of Homer. 2 hours. Professors WHEELER (first half-year) and PERRY (second half-year).

Open as an elective to juniors and seniors, and with the consent of the instructor to sophomores.

6—First half-year : Æschylus' *Prometheus* and Sophocles' *Antigone*. Second half-year : Selections from Thucydides. For private reading in the course of the year, with occasional conferences with the instructor : Sophocles' *Œdipus Tyrannus*. 3 hours. Professor PERRY (first half-year) and Dr. YOUNG (second half-year)

Open as an elective to juniors and seniors who have taken Course 3 or Course 4, or an equivalent. Open also to graduate students, but not allowed to be counted towards the higher degrees.

7—Greek composition, advanced course. One session weekly, with written exercises, counting as a two-hours course. Professor WHEELER

Open as an elective to juniors and seniors. Open also to graduate students, but not allowed to be counted towards the higher degrees.

11—Plato and Aristotle. Reading course, with introductory lectures and written exercises and essays. 3 hours. Professor PERRY (first half-year) and Professor WHEELER (second half-year)

Open to seniors and graduate students. May be counted towards the higher degrees if special work is done in connection with the course.

13—Aristotle's *Poetics*, with illustrative reading of three or more plays. 2 hours. Professor WHEELER

Open to seniors and graduate students. A third hour is also given in connection with this course, devoted to the study of Plato's *Phædo*.

14—New Testament Greek. First half-year : Gospel of St. Matthew and Acts of the Apostles. Second half-year : Selected Epistles. 2 hours. Dr. YOUNG

Open as an elective to juniors and seniors. Open also to graduates. May be counted towards the higher degrees if special work is done in connection with it.

18—Introduction to the study of Greek archæology. Part II : Sculpture. 2 hours. Dr. YOUNG

Open to seniors and graduate students. May be counted towards the higher degrees.

21—Greek epigraphy. Lectures, and practice in the reading of inscriptions. One session weekly, counting as a two-hours course. Professor WHEELER

Open to graduate students only.

25—Methods of teaching Greek in secondary schools

30—Modern Greek. Two hours, second half-year only. Dr. ROGERS

Open to seniors and to graduate students. May not be counted towards any degree.

Courses in Methods of Teaching Latin and Greek

A course entitled Methods of Classical Instruction will be conducted at Columbia University by the officers of the Departments of Latin and Greek, two hours each week during the first half-year. This course is introductory to Education 18 and 21, to be given at Teachers College during the second half-year, and may be combined with either of these to count as a two-hours course for the year.

Open to seniors and to graduate students.

Classical Seminar

Greek Section : First half-year : Reading and discussion of extracts illustrating the history of Greek philosophy, with preparation and discussion of papers. The text-book used is Ritter and Preller's *Historia Philosophiæ e Fontium Locis Contexta*, 8th ed. Second half-year : Interpretation of Greek dialectic inscriptions, chiefly on the basis of Cauer's *Delectus Inscriptionum Græcarum*, 2d ed. Professor PERRY

One and a half hours weekly throughout the year, counting as a three-hours course

Open only to graduate students.

Courses in New Testament Greek at the Union Theological Seminary

These courses may count as *part* of the work required for the degrees of Master of Arts and Doctor of Philosophy at Columbia University ; but students who intend to avail themselves of this privilege must come to an understanding with the Dean of the Faculty of Philosophy of Columbia University with regard to equivalence of courses and additional work required, at the time of registering themselves, or of renewing their registration, as candidates for a degree.

Courses

First Term :

New Testament Grammar ; the Synoptic Gospels. 3 hours. Mr. FRAME
The Johannine Writings. 2 hours. Professor VINCENT
Acts of the Apostles (Ch. I–XII). 2 hours. Mr. FRAME
Romans. 2 hours. Professor VINCENT
Philippians, and Philemon. 1 hour. Mr. FRAME
Textual Criticism of the New Testament. 2 hours. Professor VINCENT
Exegetical Seminar : Hebrews. 2 hours. Professor VINCENT

Second Term :

The Synoptic Gospels ; grammatical and exegetical drill. 3 hours. Mr. FRAME
The Johannine Writings, 2 hours. Professor VINCENT
Acts of the Apostles (Ch. XIII-XXVIII). 2 hours. Mr. FRAME
First Corinthians. 2 hours. Professor VINCENT
First and Second Thessalonians. 1 hour. Mr. FRAME
Second Peter, and Jude. 1 hour. Mr. FRAME
Special Introduction to the New Testament. 2 hours. Professor VINCENT
Exegetical Seminar : Hebrews. 2 hours. Professor VINCENT

Gynecology

GEORGE MONTGOMERY TUTTLE, M.D. *Professor*
GEORGE W. JARMAN, M.D. *Chief of Clinic and Instructor*
W. S. STONE, M.D. *Instructor*
E. L'H. MCGINNIS, M.D. *Electro-Therapeutist*
B. W. STIEFEL, M.D. *Clinical Assistant*
CHARLES I. PROBEN, M.D. *Clinical Assistant*
JOHN M. KENNEDY, M.D. *Clinical Assistant*
E. P. MALLETT, M.D. *Clinical Assistant*
G. H. MALLETT, M.D. *Clinical Assistant*
J. J. HIGGINS, M.D. *Clinical Assistant*
FRANK OASTLER, M.D. *Clinical Assistant*
JOSEPH A. O'NEILL, M.D. *Clinical Assistant*
WILLIAM L. BRADLEY, M.D. *Clinical Assistant*
J. W. EGERTON, M.D. *Clinical Assistant*

Courses

1—The principles and practice of gynecology—Didactic lectures. 3 hours, from March 15 to the end of the academic year. Professor TUTTLE

Required, in the second and third years, of candidates for the degree of M.D.

2—Clinical instruction at the Vanderbilt Clinic. 1 hour. F. at 3 P.M. Professor TUTTLE

Required, in the third year, of candidates for the degree of M.D.

3—Practical instruction in diagnosis, treatment, and the use of instruments. 6 lessons for each student at the Vanderbilt Clinic. Dr. JARMAN and Dr. STONE

Required, in the third year, of candidates for the degree of M.D.

4—Hospital clinics in operative gynecology—Roosevelt Hospital, McLane Operating Theatre. 6 exercises for each student, Tu., Th., and Sat. at 2.30 P.M.

Required, in the third year, of candidates for the degree of M.D.

The McLane Operating Theatre of Roosevelt Hospital

This is upon the hospital grounds, immediately opposite the College of Physicians and Surgeons, and is one of the most thoroughly equipped buildings in this country for instruction in the surgery of gynecology.

The cases upon which operations are demonstrated are taken from the gynecological wards of Roosevelt Hospital, which are under the exclusive direction of the Professor of Gynecology, and the cases in which are all available for the instruction given by him.

History and Political Philosophy

WILLIAM MILLIGAN SLOANE, Ph.D., L.H.D., LL.D. *Professor*
HERBERT LEVI OSGOOD, Ph.D. *Professor*
WILLIAM ARCHIBALD DUNNING, Ph.D. *Professor*
JAMES HARVEY ROBINSON, Ph.D. *Professor*
HARRY ALONZO CUSHING, Ph.D. *Lecturer*
WILLIAM ROBERT SHEPHERD, Ph.D. *Lecturer*

There are three groups of courses in this department: disciplinary, narrative, and research. Course **A** is required of all candidates for the A.B. degree; with it may be classed courses **1, 2, 3,** and **4**. Courses **5, 6, 7, 10, 11, 14, 30,** and **35** are preparatory to the independent investigation of historical subjects, and the rest are intended for the training of candidates for the higher degrees. These all may be supplemented and complemented by courses given in other departments which deal with subjects constituting an integral part of the domain of history: viz., history of European law, general history of diplomacy, history of American diplomacy, and the historical courses in Economics, Social Science, and Philosophy. The University likewise affords excellent opportunities for the study of archæology, political geography, and philology in their intimate connection with historical research.

Courses in History

A—Epochs of ancient, mediæval, and modern history. 3 hours. Dr. SHEPHERD

Required of all candidates for the A.B. degree.

1—Mediæval and modern political history to 1648. 2 hours. Professor DUNNING and Dr. SHEPHERD

2—Continental European history, modern and contemporaneous, 1648–1889. 2 hours. Dr. SHEPHERD

3—English history to the Reform Bill (1832). 2 hours. Dr. CUSHING

4—History of the United States to the close of Reconstruction (1877). 3 hours. Professor DUNNING

5—Transition epochs in European history. 2 hours. Professor SLOANE

Given in 1900–1901.

6—The history of England during the eighteenth and nineteenth centuries. 2 hours. Professor OSGOOD

Open to seniors and juniors.

7—Political and constitutional history of Rome. 2 hours, first half-year. Professor MUNROE SMITH

Given in 1900–1901.

10—The sources of mediæval and modern European history—Methods of historical study—Bernheim's *Lehrbuch der historischen Methode* will serve as a basis for the work. 2 hours, second half-year. Professors ROBINSON and OSGOOD

11—Antecedents of modern European history—The Reformation. 2 hours. Professor ROBINSON

12—Mediæval institutions and culture—A research course open only to those who can read Latin and German fluently. Luchaire's *Manuel des Institutions françaises* will be used as a handbook. 2 hours. Professor ROBINSON.

13—Opening of the Lutheran Reformation (1517–26)—A research course, open only to those who can read German and Latin fluently. 2 hours. Professor ROBINSON

Given in 1900–1901.

14a—Continental history—France under Louis XVI. — The antecedents and opening of the French Revolution. 2 hours, first half-year. Professor ROBINSON

14b—Continental history—The age of the Revolution from 1791 to 1815. 2 hours, second half-year. Open only to those who have taken Course 14a. Professor SLOANE

15—The work of Napoleon—This course is open to such selected individuals as give evidence of capacity for original research, and read French and German fluently. 2 hours, first half-year. Professor SLOANE

16—The constitutional history of England to 1689. 2 hours. Professor OSGOOD

Given in 1900–1901.

17—The mediæval European city—This course of lectures will critically describe the many and varied theories about the legal origin of European municipal institutions. 2 hours, second half-year.

18—Rise of the Holy Roman Empire. 2 hours, second half-year. Dr. SHEPHERD

19—Early church history. 2 hours. Given at the Union Theological Seminary

20—Mediæval church history. 2 hours. Given at the Union Theological Seminary

21—Modern church history. 2 hours. Given at the Union Theological Seminary

22—Seminar in later mediæval and modern European history. 2 hours every other week. Professor ROBINSON

30—Transitions in American history—This course deals with those epochs of American history where its connection with that of Europe is closest. 2 hours. Professor SLOANE

31—Political and constitutional history of the United States. 2 hours. Professor BURGESS

32—American colonial history during the seventeenth century. 2 hours. Professor OSGOOD

Open only to approved candidates for the degrees of A.M. and Ph.D., and to such special students as receive permission to attend.

33—American colonial history during the eighteenth century—This course is open to the same class of students as is History 32. 2 hours. Professor OSGOOD

Given in 1900–1901.

34—European politics and the War of 1812—Research course given to selected individuals who show capacity for original research, and read French and German fluently. 2 hours, second half-year. Professor SLOANE

35—The United States during the Civil War and Reconstruction. 2 hours, first half-year. Professor DUNNING

36—American church history. 2 hours. Given at the Union Theological Seminary

37—Seminar in American colonial history. 1 hour. Professor OSGOOD

Courses in Political Philosophy

40—General history of political theories. 2 hours. Professor DUNNING

41—American political philosophy. 1 hour. Professor DUNNING

Given in 1900–1901.

42—Seminar in political philosophy. 1 hour. Professor DUNNING

Held in 1899–1900.

Equipment

The University Library is one of the two or three best similar institutions in the country. It contains over 260,000 volumes, among which are many of the great published collections for the study of ancient, mediæval, and modern history. The special library of history and political science numbers upwards of 100,000 volumes. Besides the great libraries of New York, Astor, Lenox, and Tilden foundations, those of the New York and Long Island Historical Societies and of the Bar Association are, under certain conditions, accessible to students. Fuller information as to courses and opportunities for historical work is given in the circular of the historical department, which may be obtained by applying to the Secretary of the University. Under the auspices of the Academy of Political Science, to which advanced students are eligible as members, opportunities are given for the discussion of questions of interest as presented in papers by specialists.

The department employs in its work the best French and German historical maps and one of the four largest relief globes ever made.

Laryngology

(*Including Diseases of the Larynx, Pharynx, and Nasal Passages.*)

GEORGE MOREWOOD LEFFERTS, M.D. *Clinical Professor*
WILLIAM K. SIMPSON, M.D. *Chief of Clinic and Instructor in Laryngology*
RICHARD FROTHINGHAM, M.D. *Instructor in Laryngology*
JAMES P. MCEVOY, M.D. *Clinical Assistant*
EDMUND W. BILL, M.D. *Clinical Assistant*
JONATHAN DWIGHT, JR., M.D. *Clinical Assistant*
JOSEPH E. FULD, M.D. *Clinical Assistant*
ARTHUR P. COLL, M.D. *Clinical Assistant*
LEE M. HURD, M.D. *Clinical Assistant*
JOHN J. MCCOY, M.D. *Clinical Assistant*
JOHN LESHURE, M.D. *Clinical Assistant*

Courses

Instruction in the department of Laryngology (including diseases of the larynx, pharynx, and nasal passages) is both didactic and clinical. It comprises :

1—A systematic course of didactic lectures, which for convenience in teaching and economy of time is given to the fourth-year students collectively in the amphitheatre of the Vanderbilt Clinic.

These lectures are theoretical to a limited extent only, being mainly illustrative and demonstrative in character. They treat of such general principles of pathology, diagnosis, and therapeutics as concern diseases of the throat and nasal passages; each lecture being illustrated by wall plates in color, models, pathological specimens, apparatus, and instruments, and as the subject may also demand, either the presentation of selected cases with a colored-chalk blackboard sketch of their pathological and diagnostic appearances, or by the personal demonstration of the patient with the aid of the laryngoscopic or rhinoscopic mirror.

During the course, practical illustrations of all the methods of local treatment are given and all minor surgical operations upon the throat and nasal passages performed in the presence of the class.

Both the subjects and the dates of these lectures, each of which is, as far as possible, complete in itself, are announced in printed form at the beginning of the session, and a copy furnished each student in attendance. 1 hour a week for twenty-eight weeks. M. at 2 P.M. Professor LEFFERTS

Required, in the fourth year, of candidates for the degree of M.D.

2—Practical clinical instruction in the Laryngological Hall of the Vanderbilt Clinic to sections of the class in the use of the laryngoscope, rhinoscope, and tongue spatula. The work of each course of ten lessons is based upon the principles of concise preliminary explanation and personal demonstration, followed by practical work by the student: (1) In examinations of the normal mouth, pharynx, and anterior nasal passages—*i. e.*, oroscopy, median pharyngoscopy, and anterior rhinoscopy—until he has acquired the skilful use of reflected artificial light, by the aid of the concave head mirror, and then (2) in the laryngoscopic and posterior rhinoscopic examination of both normal and pathological cases, all under the direct and personal supervision of the instructors. The necessary instruments and apparatus are furnished by the department. Dr. SIMPSON

Required, in the fourth year, of candidates for the degree of M.D.

3—Individual clinical demonstrations, at which, during his course of "section" teaching, each student has demonstrated to him, by the instructor, a certain number of pathological cases, special attention being given to the questions of general diagnosis, differential and bacteriological diagnosis, and treatment. Dr. FROTHINGHAM

Equipment

The department of Laryngology occupies the west end of the second floor of the Vanderbilt Clinic. It possesses:

Two large clinic rooms for the separate registration, examination, and treatment of male and female patients. Each of these rooms contains two compartments or alcoves, fitted with Mackenzie light condensers, medicine and instrument cabinets, cuspidors with running water, a compressed-air apparatus for medicated sprays (the steam air-pump and large storage reservoir for compressed air being located in the cellar of the Clinic building), electromotor and galvanocautery, rheostat and instruments supplied by a special dynamo. One of these

rooms (No. 7) is fitted in part with glass cases and cabinets of drawers, to accommodate the "museum of teaching apparatus," charts, models, pathological specimens, and a collection of operative instruments.

An operating room for cases requiring anæsthesia, which also serves as a private examination cabinet for patients, and as an office and demonstration room for the professor.

A large hall, fitted with nineteen separate stalls, each with lamp, "laryngoscope phantom," mirrors, and other instruments and conveniences for the instruction of classes of students in the practical use of the laryngoscope and rhinoscope.

A "demonstration room" for pathological cases to limited numbers of students.

A large, light hallway, with ample and convenient seating capacity, in communication with all of the above rooms; used as the reception and waiting room for patients.

Access to the amphitheatre of the Clinic: fitted with electric light for examinative purposes; rheostats for small incandescent lamps and the galvano-cautery and electromotor; a dark cabinet for laryngoscopic and rhinoscopic demonstrations, and ample hanging facilities for a large collection of colored wall charts of pathology, etc. The didactic lectures are given in this amphitheatre.

The department is further equipped with a complete collection of the most approved modern instruments and appliances, by the best makers, for the diagnosis and treatment of the diseases of the throat and nose, and for the giving of instruction therein.

Among other things may be mentioned: A complete collection of the modern electric illuminating apparatus for the examination of patients; the electric laryngoscope; apparatus for the transillumination of the accessory cavities of the face; dilators, canulæ, and other instruments used in the treatment of laryngeal stenosis; operative instruments by Pfau of Berlin, arranged in cases and catalogued; laryngoscope "phantoms," by Bock of Leipsic, for exercising the students in the use of the various instruments preliminary to the examination of the living subject; one hundred anatomical models of the healthy and diseased larynx by Steiger of Leipsic and Tobold of Berlin; models of the normal larynx by Bock of Leipsic and by Auzoux of Paris; physiological models to illustrate the normal movements and the various paralyses of the vocal cords; a diagrammatic model to illustrate the mechanical interference of laryngeal neoplasms with the act of phonation; photographs of the living larynx, in health and disease; four hundred wall plates in color, by Wright of New York, of the pathological conditions of larynx, pharynx, naso-pharynx, and nasal passages—these are of large size (42 x 36) to illustrate the clinical lectures; a collection of large drawings, illustrating the anatomy of the accessory sinuses of the nose; also illustrated by a series of sections of the skull, made by Ward of Rochester, and by a series of models of frozen sections of the human head, prepared by Odo Betz and by Elkins; Fränkel's photogravures of the same subjects; drawings and instruments to illustrate the operation of intubation; reproductions of all the earlier tubes for laryngeal

catheterization and intubation—this latter collection is historically interesting as illustrating the evolution of the intubation tube; a special manikin, upon which the process of intubation may be practically demonstrated to a large number of students at one time; wet preparations of the larynges of children, demonstrating *in situ* the proper-sized intubation tube, and its exact position in the larynx at different ages (1–15 years); and a series of models, by Elkins, of laryngeal diphtheria; a collection of skulls, demonstrating the various lesions of the nasal septum and abnormalities of the nasal chambers.

The pathological and anatomical museum of the department contains at present one hundred and fifty carefully prepared and mounted wet preparations of the larynx and its diseases. This collection is specially rich in the rare specimens, such as benign neoplasms of the larynx, intrinsic and extrinsic, laryngeal cancer, and others.

Latin

HARRY THURSTON PECK, Ph.D., L.H.D.....*Professor*
JAMES C. EGBERT, Jr., Ph.D.....*Adjunct Professor*
NELSON G. MCCREA, Ph.D.....*Instructor*
HENRY J. BURCHELL, Jr., A.M.....*Assistant*
CHARLES KNAPP, Ph.D.....*Assistant*
GEORGE N. OLCOTT, Ph.D.....*Lecturer*

Courses **A** and **B** are open to freshmen in the College; **1** and **2** to sophomores, unless they elect Chemistry as a substitute; **3**, **4**, and **5** are open to juniors, **3–6**, **8**, **10**, and **12** to seniors and university students; **8**, **10**, **12**, **14**, **18**, **19**, **20**, **21**, and **22**, to university students; and **5** to specially qualified juniors.

Courses

A—Cicero De Senectute—Latin prose composition. Reading at sight. Horace, Odes and Epodes; review of prosody. 3 hours. Mr. BURCHELL

B—Selected readings in prose and verse. 3 hours. Dr. MCCREA

1—Tacitus: Agricola and Annals—Horace, Satires. 3 hours. Professor EGBERT

2—Epistles of Horace—Letters of Cicero. 2 hours. Dr. MCCREA

3—Juvenal—Martial. 3 hours. Professor EGBERT and Dr. MCCREA

4—Plautus and Terence—Lectures on Roman comedy. 2 hours. Dr. MCCREA

5—Introduction to Latin inscriptions. 2 hours. Professor EGBERT

6—Rapid reading (Horace). 2 hours. Professor PECK

8—Latin manuscripts. 2 hours. Professor EGBERT

10—The private life of the Romans. 2 hours. Dr. MCCREA

12—Roman topography (advanced course). 2 hours. Professor EGBERT

14—Roman historical readings. Tacitus. 2 hours. Professor EGBERT

18—The Satires of Persius. 2 hours. First term only. Professor PECK

19—The Medea of Seneca. 2 hours. Second term only. Professor PECK

20—Catullus and the Elegiac Poets. 2 hours. Second half-year only. Mr. BURCHELL

21—Roman Numismatics. 1 hour. Mr. OLCOTT

22—Classical Seminar (Latin section). 2 hours. Twice a month, second half-year. Professors PECK and EGBERT

LAW

The courses offered in Law are here indicated. For full information as to the course leading to the degree of Bachelor of Laws consult the statement concerning the School of Law.

Municipal or Private Law

WILLIAM A. KEENER, LL.D. *Professor*
FRANCIS M. BURDICK, LL.D. *Professor*
GEORGE W. KIRCHWEY, A.B. *Professor*
GEORGE F. CANFIELD, A.M., LL.B. *Professor*
JOHN W. HOUSTON, A.M., LL.B. *Professor*
CHARLES T. TERRY, A.B., LL.B. *Lecturer*
HARLAN F. STONE, B.S., LL.B. *Lecturer*

Courses 1 to 6, inclusive, constitute the work of the first year in the Law School and are open to seniors in the College. Courses 7 to 15, inclusive, and Course 20 are open to students who have taken the work of the first year in Law. Courses 16 to 25, inclusive, are open to students who have taken the work of the first and second years in Law.

Courses

1—Elements of jurisprudence and equity. 2 hours. Professor KEENER

2—Contracts. 4 hours. Mr. TERRY

3—Real and personal property. 2 hours. Professor KIRCHWEY

4—Torts. 2 hours. Professor BURDICK

4a—Criminal law. 2 hours. Professor HOUSTON

5—Common-law pleading and practice. 2 hours, second half-year. Professor HOUSTON

6—Domestic relations and law of persons. 2 hours, first half-year. Mr. STONE

7—Quasi-contracts. 2 hours. Professor KIRCHWEY

8—Equity. 2 hours. Professor KEENER

9—Real and personal property. 2 hours. Professor KIRCHWEY

10—Agency. 2 hours. Professor CANFIELD

11—Bailments and carriers. 2 hours. Professor HOUSTON

12—Sales of personal property. 2 hours. Professor BURDICK

14—Equity pleading and practice. 2 hours, first half-year. Mr. STONE

15—Negotiable paper. 2 hours. Professor BURDICK

16—Code pleading and practice. 2 hours. Mr. STONE

17—Corporations. 2 hours. Professor KEENER

18—Equity. 2 hours. Professor KEENER

19—Evidence. 2 hours. Professor CANFIELD

20—Insurance. 2 hours, second half-year. Mr. STONE

21—Partnership. 2 hours. Professor BURDICK

22—Real and personal property. 2 hours. Professor KIRCHWEY

23—Suretyship and mortgage. 2 hours. Professors BURDICK and KIRCHWEY

24—Wills and administration. 2 hours. Professor HOUSTON

25—Doctrines peculiar to New York law. 2 hours, first half-year. Professor CANFIELD

Public Law and Jurisprudence

JOHN WILLIAM BURGESS, Ph.D., LL.D.....*Professor*
*MUNROE SMITH, A.M., J.U.D.....*Professor*
FRANK JOHNSON GOODNOW, A.M., LL.D.....*Professor*
JOHN BASSETT MOORE, A.B.....*Professor*
JOHN ARCHIBALD FAIRLIE, Ph.D.....*Prize Lecturer*

The courses in this department fall into two divisions: public law and jurisprudence. The purpose of the courses in public law is to give a complete general view of international, constitutional, administrative, and criminal law. They serve primarily to supplement the courses in the departments of History and Economics, and to give with them a complete system of political science. In the second place, they supplement the courses offered by the department of Private Law, constituting with these a well-rounded legal curriculum. The courses in international, constitutional, and administrative law are also recommended to journalists, students of philosophy and theology, and in general to all who desire to understand the organization and working of governmental systems. The courses in criminal law and in international private law (conflicts of private law) are more professional in their character, and are chiefly intended for law students.

The courses in Roman law and comparative jurisprudence, while constituting an integral portion of a complete legal education, will be found useful to all those who desire a general comprehension of the principles of private law rather than a professional training in its details. The introductory course upon the Roman law (21) and that upon European legal history (23) are especially recommended to students of history, economics, and philosophy.

Courses in Public Law

A—Constitutional Law

1—Comparative constitutional law of the principal European states and the United States—Lectures. 2 hours. Professor BURGESS

* Owing to the absence of Prof. Munroe Smith on leave, the courses in Roman Law and Comparative Jurisprudence will not be given during the year 1899–1900.

5—Seminar in the constitutional law of the United States—Investigation and discussion. 2 hours. Professor BURGESS

The courses in the constitutional history of Europe, England, and the United States (*cf.* courses in history) are regarded as a necessary introduction to the above courses in constitutional law.

B—International Law

6—History of diplomacy—Lectures. 2 hours, first half-year. Professor MOORE

7—History of American diplomacy—Lectures. 2 hours, second half-year. Professor MOORE

8—International law—Lectures. 2 hours. Professor MOORE

10—Seminar in international law. Professor MOORE

C—Criminal Law

11—Criminal law, including the conflict of penal laws, and extradition—Lectures. This course is given in the Law School. 2 hours. Professor HOUSTON

D—Administrative Law

16—Comparative administrative law—Lectures. 2 hours. Professor GOODNOW

17—Municipal government—Lectures. 2 hours, second half-year. Dr. FAIRLIE

18—Law of taxation—Lectures. 1 hour. Professor GOODNOW

19—Law of municipal corporations—Lectures. 1 hour. Professor GOODNOW

20—Seminar in administrative law. Professor GOODNOW

Courses in Roman Law and Comparative Jurisprudence

21—Roman law I—Sohm's *Institutes of Roman Law*, supplemented by lectures. 2 hours, first half-year. Professor MUNROE SMITH

22—Roman law II—Discussion of selected cases from the *Corpus Juris Civilis*, principally in contracts. 2 hours, second half-year. Professor MUNROE SMITH

23—History of European law (early German law; Frankish law; feudalism; the canon law: the reception of Roman law in mediæval Europe; the reaction against Roman law, canon and civil, and the movement towards national codification)—Lectures. 2 hours. Professor MUNROE SMITH

Given in 1901–1902 and alternate years thereafter.

24—Comparative jurisprudence—Lectures and discussion. 2 hours. Professor MUNROE SMITH

Given in 1900–1901 and alternate years thereafter.

25—International private law (conflicts of private law)—Lectures and discussion of cases. 1 hour. Professor MUNROE SMITH

29, 30—Seminars in legal history and comparative legislation. Professor MUNROE SMITH

Literature

(See page 96)

Materia Medica and Therapeutics

GEORGE L. PEABODY, M.D. *Professor*

Courses

Instruction in this department is both didactic and clinical.

1—The didactic course embraces general therapeutic considerations; modes of administering drugs; the individual drugs used in treating disease, their physiological effects and therapeutic uses, and the toxicological effects of such of them as are poisons; remedial measures other than the use of drugs, including electricity, dietetics, the use of water (including bathing and the administration of mineral waters); physical exercise, and the like.

The department has a full collection of all the drugs lectured upon, as well as of their important preparations. After each lecture every student has an opportunity of examining specimens of all the drugs and preparations that formed the subject of the lecture. 3 hours. Professor PEABODY

Required, in the second and third years, of candidates for the degree of M.D.

2—The clinical instruction in therapeutics is given in the New York and Roosevelt Hospitals.

A large number of patients are presented to the class, and opportunity is afforded of observing the modifications in the natural course of diseases which are produced by therapeutic procedures, including not only the action of drugs, but also the effects of such remedial measures as cold baths, wet packs, electricity, and the like.

Once a week for three months at the New York Hospital, once a week for two months at the Roosevelt Hospital. Professor PEABODY

Recommended, in the third and fourth years, to candidates for the degree of M.D.

Mathematics

J. HOWARD VAN AMRINGE, Ph.D., L.H.D., LL.D. *Professor*
THOMAS SCOTT FISKE, Ph.D. *Professor*
FRANK NELSON COLE, Ph.D. *Professor*
JAMES MACLAY, Ph.D. *Instructor*
JONATHAN BRACE CHITTENDEN, Ph.D. *Tutor*
CASSIUS JACKSON KEYSER, A.M. *Tutor*
WALTER WHEELER COOK, A.B. *Assistant*
HENRY BEDINGER MITCHELL, E.E. *Assistant*

Courses

A—Geometry, volumetric and spherical (Davies' *Legendre*, Books 6–9). 3 hours, first half-year; algebra from quadratics (Wells' *College Algebra*). 3 hours, second half-year. Dr. MACLAY, Dr. CHITTENDEN, and Mr. KEYSER

Prescribed for freshmen in the College who did not offer advanced mathematics at the entrance examination.

1—Trigonometry, plane, analytical, and spherical, and mensuration (Davies' *Legendre*). 3 hours, first half-year. Professor FISKE

Open to students in the College who have taken Course A or who offered advanced mathematics at the entrance examination.

2—Analytical geometry, first part—Straight line, circle, parabola, and transformation of co-ordinates (Wentworth's *Analytical Geometry*). 3 hours, second half-year. Professor FISKE

Open to students in the College who have taken Course 1.

10—Trigonometry (as in Course 1) and algebra (Wells' *College Algebra*) from series. 5 hours, first half-year. Dr. MACLAY, Dr. CHITTENDEN, and Mr. KEYSER

Required of all first-year students in the School of Mines, School of Chemistry, and School of Engineering.

11—Analytical geometry (Wentworth's). 5 hours, second half-year Dr. MACLAY, Dr. CHITTENDEN, and Mr. KEYSER

Required of all first-year students in the School of Mines, School of Chemistry, and School of Engineering.

4—Analytical geometry, second part—Continuation of Course 2. 3 hours, first half-year. Professor VAN AMRINGE

Open to students in the College who have taken Courses 1 and 2.

8—Probability and the Theory of Equations. 3 hours, second half-year. Professor VAN AMRINGE

Open to students in the College who have taken Course 4.

6—Calculus—Osborne's *Differential and Integral Calculus*. 3 hours. Professor VAN AMRINGE

Open to students in the College who take, or have taken, Course 4. Required of second-year students in the School of Mines, School of Chemistry, and School of Engineering.

7—Advanced analytical geometry—C. Smith's *Solid Geometry* and Scott's *Introduction to Modern Methods in Analytical Geometry*. 3 hours. Dr. CHITTENDEN

Open to students in the College who have taken Courses 4 and 5, and who take, or have taken, Course 6.
Not given in 1899–1900.

21—Advanced calculus. 3 hours. Professor FISKE

Open to specially qualified seniors in the College who have taken Course 6.
For A.M and Ph.D.

22—Differential equations. 3 hours. Mr. KEYSER

Open to specially qualified seniors in the College who have taken Course 6.
For A.M. and Ph.D.

23—Theory of functions of a complex variable. 3 hours. Professor FISKE

For A.M. and Ph.D.

24—Riemann's theory of functions, including elliptic functions. 3 hours. Professor COLE

For A.M. and Ph.D.
Not given in 1899–1900.

25—Theory of invariants. 3 hours. Professor COLE

For A.M. and Ph.D.

27—Analytical theory of curves of double curvature and curved surfaces. 3 hours. Dr. MACLAY

For A.M. and Ph.D.

28—Theory of Abelian functions. 3 hours. Professor FISKE
For A.M. and Ph.D.
Not given in 1899–1900.

31—Functions defined by linear differential equations. 3 hours. ———

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For A.M. and Ph.D.
Not given in 1899–1900.

32—Theory of groups. 3 hours. Professor COLE
For A.M. and Ph.D.

Equipment

In the equipment of the department of Mathematics is a large number of models, charts, and instruments. An elaborate set of models illustrates the metric system of weights and measures. A set of about fifty models of elementary solid and spherical geometry is intended to exemplify the demonstrations contained in Davies' *Legendre*. These are made of cherry wood with markings in inlaid ebony, and are of unusually large size. There are several similar models representing the different plane sections of the cone. A series of wooden models, constructed by Schroeder of Darmstadt, illustrates elementary solid geometry, and contains, in addition, examples of all the different forms of surfaces of the second order. There is a series of models of descriptive geometry, also constructed by Schroeder. The horizontal and vertical projections are traced upon boards solidly joined together at right angles and of convenient size to allow, in general, the representation of three different models, or of three different views of the same model. The form and construction suggest a division of these models into two classes : (1) the representation in metal of lines and surfaces, adjusted upon axes, the projections of several of their positions being given ; (2) the representation of solid bodies in hard wood, including the exhibition of their plane sections in various directions and the intersections of different surfaces and solids.

A collection of models, which was presented to the department by President Low, having been purchased by him from the German University Exhibit at the Chicago Exposition in 1893, illustrates analysis situs, theory of functions of a complex variable, surfaces of higher order, their singularities and curvature, and line-geometry.

A series of charts illustrates the theory of plane algebraic curves, especially those of the fourth order, the resolution of higher plane singularities into equivalent elementary singularities, the expression of functions by means of infinite series and infinite products, and conformal representation by means of algebraic and elliptic functions.

Among the instruments of the department are an Amsler's planimeter, many instruments for executing geometrical constructions upon the blackboard and paper, a collection of curves of different sizes in wood and hard rubber, and several pieces of apparatus for describing the conic sections upon the blackboard in accordance with the well-known kinematic methods.

The collection of mathematical works in the Library of the University is especially rich in treatises and in sets of collected works of mathematicians. All the mathematical journals of importance are regularly received, and the Library possesses complete sets of most of them.

Mechanical Engineering

(See page 86)

Mechanics

ROBERT SIMPSON WOODWARD, C.E., Ph.D. *Professor*
MICHAEL IDVORSKY PUPIN, Ph.D. *Adjunct Professor*
JOSEPH CLEMENT PFISTER, A.M. *Tutor*

Courses 1 and 3–9 may be pursued as minors for the degrees of A.M. and Ph.D. by candidates who have not taken such courses in undergraduate work; 2 hours a week for one year constitutes a minor for the degree of A.M., and 2 hours a week for two years a minor for the degree of Ph.D.

Time equivalent to three hours a week for four half-years devoted to Courses 10–18 is required as a major for the degree of Ph.D., and 3 hours a week for two half-years as a major for the degree of A.M. For a minor for the degree of Ph.D. a time equivalent to 2 hours a week for two years is required.

Courses

1—Analytical mechanics. As a text for this subject, Rankine's *Applied Mechanics* is used, attention being confined chiefly, however, to Part I, Principles of Statics (including hydrostatics); Part III, Principles of Kinematics; and Part V, Principles of Dynamics (including hydrodynamics). The text is supplemented by lectures on special topics, by written solutions and discussions of typical problems, and by demonstrations with the aid of apparatus. Particular attention is given to the doctrine of units and dimensions of units, and to problems affording actual applications of principles. 3 hours, first and second half-year. Professor WOODWARD

Required of students in Civil, Mining, Mechanical, and Electrical Engineering; and it is recommended to all students who may desire to pursue the higher applications of mechanics in dynamical astronomy, electricity, magnetism, thermodynamics, elasticity, and physical geodesy.

2—Elementary mechanics. Loney's *Elements of Statics and Dynamics* is used as a text. This work is supplemented by demonstrations with apparatus, by lectures on the theory of dimensions and units, and by lectures, chiefly historical, on the higher applications and results of the science. 2 hours. Mr. PFISTER

Offered especially as an elective to students of the junior and the senior years in the College. It is designed to afford as good a knowledge of the science as can be had without the calculus. It assumes that the student has passed in Course 1 of the department of Mathematics, or its equivalent.

3—Theoretical mechanics. This requires familiarity with the elements of the differential and integral calculus. 2 hours. Mr. PFISTER

Designed to be supplementary to Course 2, and is offered as an elective to those desiring a knowledge of the general principles of the science rather than the special principles essential to engineering.

4—Thermodynamics, with special reference to its bearing on the theory of heat engines. 3 hours, second half-year. Professor PUPIN

Required of all students in Engineering.

5—Elementary thermodynamics and hydromechanics. Thermodynamics, 2 hours, first half-year ; hydromechanics, 2 hours, second half-year. Mr. PFISTER

Offered as an elective to students of the fourth year in the College, and to graduates. Its pre-requisite is Course 2, or an equivalent.

6—Theory of dynamo and motor (introductory), covering elements of the theory of electric, magnetic, and electro-dynamic potential, theory of electro-magnetic and electro-dynamic induction, and its application to the theory of an ideal dynamo. 3 hours, first half-year. Professor PUPIN and Mr. TOWNSEND

Required of students in Electrical Engineering.

7—Theory of direct-current dynamo and motor, covering Hopkinson's theory of dynamo and motor designing, and Froelich's method of dynamo and motor testing. 3 hours, second half-year. Professor PUPIN and Mr. TOWNSEND

Required of students in Electrical Engineering.

8—Theory of alternators and transformers. 3 hours, first half-year. Professor PUPIN

Required of students in Electrical Engineering.

9—Theory of variable currents, particularly the theory of polyphase and of high frequency and high potential currents. 2 hours, second half-year. Professor PUPIN

Required of students in Electrical Engineering.

10—Advanced theoretical mechanics—General principles of kinematics, statics, and kinetics ; methods of Lagrange, Hamilton, and Jacobi ; applications of the doctrine of energy to the interpretation of mechanical phenomena. Lectures, 2 hours, first and second half-years. Professor WOODWARD

11—Theory of the potential function—General exposition of theory ; derivation of equations of Laplace and Poisson, and theorems of Gauss, Green, and Stokes : with applications to problems in gravitation, hydromechanics, static electricity, and terrestrial magnetism. Lectures, 2 hours, first and second half-year. Professor WOODWARD

12—Geodynamics—Amount and distribution of earth's mass ; phenomena of precession, nutation, and oceanic tides ; variation of density, gravity, and pressure within the earth ; thermal properties, and secular contraction ; mechanics of crumpling and crust movements. Lectures, 2 hours, first and second half-year. Professor WOODWARD

13—Mathematical theory of elasticity—Analysis of stresses and strains and expression of strains in terms of stresses ; discussion of potential energy of strained media and the constants essential to define them ; theory of wave motion in elastic media, with application to sound and light. Lectures, 2 hours, first and second half-year. Professor WOODWARD

14—Maxwell's theory of electricity and magnetism. Lectures, 2 hours, first and second half-year. Professor PUPIN

14a—Theory of Bessel's functions and spherical harmonics. Lectures, 1 hour. Professor PUPIN

15—Electro-magnetic theory of light. Lectures, 3 hours, first half-year. Professor PUPIN

16—Advanced thermodynamics, including its applications to thermo-electricity and thermo-magnetism, physical chemistry, and caloric engines. Lectures, 2 hours. Professor PUPIN

17—Theory of oscillations. 2 hours. Professor PUPIN

18—Theory of the conduction of heat in solids; with applications to spheres, cylinders, and parallelopipeds. Lectures, 2 hours, first and second half-year. Professor WOODWARD

19—Analytical mechanics, abridged course. Lectures and recitations, 2 hours, first and second half-years. Mr. PFISTER

Required of students in the School of Chemistry. Open as an elective to students of the College who have taken Mathematics 6 or an equivalent.

Equipment

The department is supplied with various machines and models of machines for illustrating the so-called mechanical powers, with balances, dynamometers, air-pump, hydraulic pumps, and other apparatus to which reference is made in the course of theoretical studies. The department has a well-equipped electrical research laboratory under the direction of Professor Pupin. A limited number of advanced students can be accommodated in it. In addition to its own appliances, the department has access to the apparatus of the allied departments, especially that of the department of Electrical Engineering, thus affording the facilities of an extensive equipment to students in advanced work. The research laboratory is provided with a complete set of apparatus for performing Hertz's classical experiments bearing upon the Faraday-Maxwell electro-magnetic theory, and also a slow-speed conductor for long electrical waves such as occur in telegraphy and telephony.

Metallurgy

THOMAS EGLESTON, E.M., Ph.D., LL.D.....*Emeritus Professor of Mineralogy and Metallurgy*
HENRY MARION HOWE, A.M., B.S.....*Professor*
JOSEPH STRUTHERS, Ph.D.....*Tutor*
ALBERT P. BAUMANN, E.M.....*Assistant*
PARKER C. MCILHINEY, Ph.D.....*Assistant*

A—Undergraduate Courses

1—General metallurgy—As an introduction to Courses 2, 3, 4, 5, and 6, history, definition of terms, calorimetry, refractory materials, furnaces, fuels (natural and artificial), chimneys, blast engines, regulators, pyrometry, furnace-gas analysis. 3 hours lectures, first half-year, during October, November, and December. Dr. STRUTHERS

Pre-requisite: Chemistry 1 and Physics 1, or equivalent. Required of third-year students in the Schools of Mines and Chemistry. Students in the course of Metallurgy have an additional hour a week. Together with Courses 2, 3, and 6, counts as a minor for the degree of A.M.

2—The metallurgy of steel and iron—The properties of steel, cast iron, and wrought iron as influenced by composition and by thermal and mechanical

treatment, together with a brief account of the chief processes by which they are made. 3 hours a week during January. Professor HOWE

Pre-requisite: Metallurgy 1. Required of third-year students in the Schools of Mines and Chemistry. Together with Courses 1, 3, and 6, counts as a minor for the degree of A.M.

3—The metallurgy of iron and steel—Ores: Classification and constitution of iron and steel; the blast furnace; composition and properties of cast iron; composition and properties of wrought iron and steel, and the influence of thermal and mechanical treatment; puddling; the Bessemer, open-hearth, and crucible processes, forging and rolling; casting cast iron and steel; and the minor processes of steel- and iron-making. 3 hours lectures, second half-year. Professor HOWE

Pre-requisite: Chemistry 1 and Physics 1, or equivalent. Required of third-year students in the courses of Metallurgy and Mechanical Engineering, and of fourth-year students in the courses of Civil Engineering and Electrical Engineering. Students in the course of Metallurgy have an additional hour a week. Together with Courses 1, 2, and 6, counts as a minor for the degree of A.M.

4—Metallurgy of copper—The properties of copper and of its alloys; the constitution of alloys in general; the reverberatory and cupola smelting processes for oxide and for sulphide ores; the converter or Bessemerizing process; minor smelting processes; wet and electrolytic processes. 3 hours lectures, first half of year, during October, November, and December. Professor HOWE

Pre-requisite: Metallurgy 1. Required of fourth-year students in the Schools of Mines and Chemistry. Students in the course of Metallurgy have an additional hour a week. Together with Courses 5 and 6, counts as a minor for the degree of A.M.

5—Metallurgy of the other non-ferrous metals—Lead; silver; gold; zinc; mercury; tin; aluminum; nickel; cobalt; arsenic; antimony. Properties; effect of impurities; ores; methods of extraction, separation, and refining. 3 hours lectures during January, first half-year, and through second half-year. Dr. STRUTHERS

Pre-requisite: Metallurgy 1. Required of fourth-year students in the Schools of Mines and Chemistry. Students in the course of Metallurgy have an additional hour a week. Together with Courses 4 and 6, counts as a minor for the degree of A.M.

6—Practical laboratory work—Heat treatment of metals and alloys; study of refractory materials; heating value of fuels; measurement of high temperature; roasting of ores, and work of like character, 3 afternoons a week, second half of third year. Professor HOWE and Dr. STRUTHERS

Pre-requisite: Metallurgy 1; and pre-requisite or parallel: Metallurgy 3, 4, and 5. Required of third-year students in the course of Metallurgy. Together with Courses 4 and 5, counts as a minor for the degree of A.M.

B—Graduate Courses

Special courses, consisting of personal instruction and original experimental investigation, will be arranged for advanced students according to their individual needs and ability. Some of these investigations will be made at metallurgical works into processes in actual use there, others in the metallurgical and analytical laboratories of the department.

The amount of time required for these courses varies, being governed by the rule that a course or courses should occupy 18 hours a week (preparation included) if taken as a major subject, and 9 hours a week if taken as a minor subject, for the degree of A.M., or Ph.D.

7—Advanced course in calorimetry—Determination of practical and theoretical values of various combustibles.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

8—Advanced course in pyrometry—Determination of the temperatures of metallurgical and other high-temperature operations, *e. g.*, of the Bessemer converter for steel and for copper, the open-hearth steel furnace, the iron blast furnace, the copper and smelting cupola furnace, steam-boiler fires, and the like.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

9—Microscopic study of iron, steel, and other metals—Preparation and microscopic examination of specimens.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

10—The heat treatment of steel and other metals, with determination of the resultant effects on the physical properties.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

11—The formation-points, melting-points, and specific heat of slags, their density and viscosity when molten, and the phenomena of crusting.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

12—The influence of strain upon the properties of metals.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

13—The chemistry of roasting processes, including the expulsion of arsenic and antimony.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

14—The chemistry of the iron blast furnace.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

15—The chemistry of basic dephosphorizing processes.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

16—Search for new and useful alloys.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

17—Fire-brick and other refractory materials, their resistance to heat and to corrosion.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

18—Electrolytic refining and depositing processes.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

19—Wet processes for extracting gold, silver, and copper.

Pre-requisite: Metallurgy 1, 3, 4, and 5, or equivalent.

C—Summer School

20—Summer school in metallurgy—Two weeks are spent at metallurgical works in studying the operations there carried out. The students are given

individual and class instruction and are required to make complete descriptions of the various processes, including sketches of furnaces and apparatus. This course is required of students in the School of Mines in the vacation between the third and fourth years, and it may be taken in addition in the vacation between the second and third years by those who wish it. Professor HOWE and Dr. STRUTHERS

At least two weeks in the summer are devoted to the study of metallurgy in actual practice. The class studies at various establishments the processes there used, the arrangement of the works, the construction of the furnaces, and the like. It is the aim of the instruction to teach the students to observe carefully all matters of importance relating to the work detailed. In addition to developing his powers of observation, he is taught to reason for himself, so that he will thoroughly understand the principles of a process, and be able, not only to give a clear and concise description, but also to explain the differences in procedure which arise under varying conditions.

In 1896 the summer school was held at Butte, Montana, and studied the smelting of copper and silver ores in that district.

In July, 1897, the summer school studied at Chicago and Pittsburgh the manufacture of iron and steel, at the various works of the Illinois Steel Company and the Carnegie Steel Company, besides several smaller works.

In September, 1898, the summer school was held at Pittsburgh, McKeesport, Latrobe, Johnstown, Steelton, Phœnixville, and Pencoyd, Penn. The subject selected for study was the manufacture of cast iron, wrought iron, and steel, and their conversion into finished products.

In September, 1899, it was held at Sparrows Point, Md., Baltimore, Md., Bethlehem, Pa., Newark and Maurer, N. J., and studied the metallurgy of iron and steel, copper, lead, zinc, gold, and silver.

METALLURGICAL EXCURSIONS—During the term the students are taken to the metallurgical establishments in the vicinity of the city, embracing iron blast furnaces, and Bessemer, open-hearth, and puddling works, the smelting of lead and copper ores, the Bessemerizing of copper matte, the refining of copper by furnace and electrolytic methods, the desilverizing of base bullion by zinc, and the parting and refining of gold and silver by both electrolytic and acid methods.

Equipment

LECTURE DIAGRAMS—There is an important collection of large lecture diagrams, prepared with great care, and many of them colored, illustrating the various metallurgical furnaces and appliances, and also showing graphically the sequence of operations in many metallurgical processes, and illustrating these processes in a realistic way.

In addition the lectures are illustrated, not only by the models referred to below, but more especially by actual demonstrations, as for instance in the heat-treatment of metals, in the wet metallurgical processes, in the rolling of metals, for which purpose a small roll-train is used, and in other like ways.

MODELS AND DRAWINGS—There is an excellent collection of models of metallurgical apparatus, furnaces, Bessemer converters, roll-trains, etc., and a very large number of detailed drawings, most of them copied from the working drawings of establishments in actual operation.

METALLURGICAL COLLECTION—There is a collection of about 3000 specimens of ores, slags, metals, fuels, refractory materials, and the intermediate and final

products of the more important metallurgical processes. Suites of specimens of great educational value, either prepared in the laboratories of the department or given to it, are added constantly.

MICROSCOPIC SPECIMENS—Microscopic sections of metals, and alloys and microphotographs of them are prepared by the department and received by gift and exchange, and are rapidly forming a valuable collection, especially important to students of the micrography of metals.

ANALYTICAL LABORATORY—The department has an analytical laboratory open to the students in metallurgy.

METALLURGICAL LABORATORY—In order to enable the student to carry out metallurgical processes on an illustrative scale, this laboratory is equipped with furnaces for roasting, for heating, and for melting in large and small crucibles, and apparatus for electrolytic and hydro-metallurgical processes.

For high-temperature investigations the laboratory already has several special furnaces, and it will be equipped for the current year with a large furnace heated by electricity.

This laboratory has also a collection of the various modern calorimeters, of calorimetric, optical, photometric, and thermo-electric pyrometers; apparatus for analyzing furnace gases, and equipment for preparing sections of metals; lathes, grinders, polishers, a micro-photographic camera, and microscopes especially adapted for examination of opaque objects; a collection of apparatus for obtaining pressure directly and by the application of heat; a sclerometer, a machine constructed by Dr. Egleston for the study of the physical properties of metals, and many other valuable instruments.

Of these, the Le Chatelier pyrometer and the apparatus for the microscopic study of metals are found especially useful, and much attention is given to their study.

Mineralogy

THOMAS EGLESTON, E.M., Ph.D., LL.D.....*Emeritus Professor of Mineralogy and Metallurgy*
ALFRED J. MOSES, E.M., Ph.D*Professor*
LEA MCI. LUQUER, C.E., Ph.D.....*Tutor*
HERBERT P. WHITLOCK, C.E*Assistant*

Courses

1—Blowpipe analysis—The tests for 40 elements and the qualitative analysis of minerals, alloys, and slags. Three hours a week laboratory, one half-year. Professor MOSES, Dr. LUQUER, and Mr. WHITLOCK

Required of first-year students in the Schools of Mines and Chemistry. Open to students in the College who have taken Chemistry 1.

2—Crystallography—History, general characters, laws, forms, simple measurements, and calculations. 2 hours lectures and conferences, one half-year. Professor MOSES

Required of first-year students in the Schools of Mines and Chemistry. Open to students in the College who have taken Physics 1.

8—Physical crystallography—Short laboratory course in determination of physical characters of crystals. 1 hour lecture, 1 hour laboratory, one half-year. Professor MOSES

Required of third-year students in Organic Chemistry. Pre-requisite: Course 2, or equivalent.

3—General mineralogy—A short course *outlining* the work in Courses 1, 2, 4, and 8. 2 hours lectures, 1 afternoon laboratory. Professor MOSES

Open to students in the College who have taken Chemistry 1 and Physics 1.

4—Descriptive and determinative mineralogy—Study of 200 important species, their properties, uses, and methods of determination. 2 hours lectures, 3 hours laboratory, second half of first year and first half of second year. Professor MOSES and Dr. LUQUER

Required of first- and second-year students in the Schools of Mines and Chemistry. Open to juniors in the College and to candidates for the degree of A.M. or Ph.D., in their first year, whose minor subject is Mineralogy. Pre-requisite: Courses 1 and 2.

5—The minerals of building-stones—Study of common species, their properties, methods of determination, and their economic effect on building-stones. 2 hours lectures, and conferences. Dr. LUQUER and Mr. WHITLOCK

Required of second-year students in the course of Civil Engineering. Open to students in the College who have taken Chemistry 1, and to candidates for the degree of A.M. as a half-minor course.

6—Optical mineralogy—Principles, apparatus, and distinguishing characters of minerals in thin sections. 2 hours lectures and 1 afternoon for two months. Dr. LUQUER

Required of second-year students in the School of Mines. Open to candidates for the degree of A.M. as a half-minor course, supplementing Course 5, and to students in the College. Pre-requisite: Course 5, or equivalent.

7—Optical mineralogy—Longer course, including principles, apparatus, and distinguishing characters of minerals in sections; determination of optical constants; study of microstructure; microchemical tests; separation of constituents and preparation of sections. 8 hours for one year. Dr. LUQUER

Open to candidates for the degree of A.M. whose major subject is Mineralogy, and to candidates for the degree of Ph.D. whose minor subject is Mineralogy. Pre-requisite: Course 3, or equivalent.

9—Physical crystallography—Optical, thermal, electric, and magnetic properties of crystals, with experiments; the geometric form with measurement and delineation; the effects of mechanical forces; theories of structure. 8 hours for one year. Professor MOSES

Open to candidates for the degree of A.M. whose major subject is Mineralogy, and to candidates for the degree of Ph.D. whose minor subject is Mineralogy. Pre-requisite: Course 3, or equivalent.

10—Physical crystallography—Longer course, including study of the crystals of some group. 12 hours for two years. Professor MOSES

Open to candidates for the degree of Ph.D. whose major subject is Mineralogy. Pre-requisite: Course 3, or equivalent.

11—Mineralogy—Study of assigned group or species. Professor MOSES

Open to candidates for the degree of Ph.D. whose major subject is Mineralogy. Pre-requisite: Course 3, or equivalent.

NOTE

Course 7 is especially a minor course for geologists, Course 8 a minor course for chemists, and Courses 9 and 10 major courses for mineralogists.

Equipment

The work of the students in the college courses and in general mineralogy is performed in the blowpipe laboratory, a large room with conference tables and seats for about 75 men, and in the adjoining lecture room, in which are the student collections of crystal models and minerals. Students in optical mineralogy use a separate room with north light, and for crystal measurements and monochromatic light determinations there is provided a large dark room.

The mineralogical collection consists of about 30,000 labelled specimens, and includes a systematic collection, an economic collection of ores, building materials, and minerals used in chemical industries, a collection illustrating the genesis and alteration of minerals, a collection illustrating the character of minerals, and small collections of artificial minerals and New York City minerals. There are, in the lecture and conference room, a separate student collection and a lecture collection. Several thousand unlabelled specimens are used in determinative work. The department possesses also about 500 sections of minerals, and 1500 crystal models in wood and glass.

Among the collections of minerals that have been presented to the department from time to time, the largest is that of Dr. Egleston, consisting of about 5000 specimens. Others that may be mentioned are the Gillmore collection, made in Paris under the direction of the Abbé Hauy, and presented by the late Gouverneur Kemble of West Point; a collection of Schulsberg (Wis.) stalactites, exhibited at the Sanitary Fair; a fine suite of Russian minerals, presented by the Czar; a collection of American minerals, presented by the late Geo. T. Strong; two of the finest cerussites in the world; the Julien collection of minerals from Chesterfield, Mass.; the famous collection of Professor How, of King's College, Nova Scotia; and a very valuable collection made by Dr. Egleston in Japan.

In addition, a large number of gifts have been received, and these have been supplemented by careful purchasing and exchanging.

Mining

HENRY S. MUNROE, E.M., Ph.D. *Professor*
ROBERT PEELE, E.M. *Adjunct Professor*
FRANK C. HOOPER, Met.E. *Assistant*

Courses

1—Excavation and tunnelling. 3 hours, first-half year. Professor PEELE

Excavation of earth—tools and methods employed; support of excavations; special methods for quicksand and other water-bearing material; steam shovels and other mechanical excavators; handling and transportation of excavated material; comparative costs. Explosives—black powder, nitro-glycerine and its compounds, and other high explosives; their manufacture and use. Excavation of rock—methods of drilling and blasting; mammoth blasts; submarine blasting. Quarrying—plant and methods of quarrying different rocks. Tunnelling—methods of driving and timbering; handling and transportation of excavated material; drainage and ventilation of tunnels; submarine tunnels; permanent lining of tunnels; accidents in tunnelling; location of tunnels.

Required of second-year students in the course of Mining Engineering.

Pre-requisites: entrance requirements in Mathematics, Chemistry, and Physics.

2—Boring and shaft-sinking. 2 hours, second half-year. Professor PEELE

Boring—methods and appliances for small depths and for deep boring; European rod system and cable tool or oil-well method; boring with diamond drill, for prospecting and other purposes; survey of bore-holes. Shaft-sinking—methods and tools employed in soft material, and in rock; sinking linings or drop-shafts, and other special methods of sinking in water-bearing formations and quicksand; drainage of shafts; handling and hoisting of excavated material. Shaft timbering and other systems of lining employed in special cases.

Required of second-year students in the course of Mining Engineering.

Pre-requisite: Mining 1.

2a—Mining and support of mine excavations. 1 hour, second half-year. Professor MUNROE

Theoretical considerations, methods of breaking ground in coal and metal mining, and support of mine excavations by pillars of mineral, by timbering, by masonry, and by rock filling.

Required of second-year students in the course of Mining Engineering.

Pre-requisite: Mining 2.

Counts, together with Mining 6, 9, and 10, as a minor for the degree of A.M.

2b—Earth and rock excavation, dredging, and shaft-sinking. 2 hours, first half-year. Professor PEELE

Excavation of earth—hand methods and mechanical excavators; costs of excavation. Dredging—by natural means and machinery; construction and operation of the various classes of dredges. Explosives—black powder, nitroglycerine, and dynamite. Drilling and blasting—hand and machine drilling; charging and firing; mammoth blasts; submarine blasting. Tunnelling—methods in rock and soft materials; timber and masonry linings; submarine tunnelling. Boring—earth augers; sounding with drive-pipe; deep boring with diamond drill. Shaft-sinking—in rock and soft water-bearing soils; methods of excavation; shaft linings.

Required of third-year students in the course of Civil Engineering.

3—Exploration, development, and methods of working. 2 hours. Professor MUNROE

Mineral deposits, characteristics of beds, masses, veins, and other deposits, and the irregularities and disturbances to which they are subject, as affecting the work of exploration and mining. Examination and survey of mineral properties; relation of topography to geological structure; construction of maps and sections and tracing of probable outcrops as a guide to exploration. Prospecting by ditches, pits, and deep boring. Development; choice of methods; location of openings. Working of deposits and support of excavations; methods applicable to deposits of different thickness, inclination, and character. Coal mining; vein mining; working of thick deposits and soft-ore bodies. Salt mining. Surface workings. Hydraulic mining.

Required of third-year students in the courses of Mining Engineering and Metallurgy.

Pre-requisites: Mineralogy 3 or 4, Geology 2. Pre-requisites or parallels: Geology 3, Mining 1, 2, and 2a.

Counts, together with Mining 4 and 5, as a minor for the degree of A.M.

4—Ore dressing, milling, and the mechanical preparation of coal. 2 hours. Professor MUNROE

The general principles and theory of dressing; preliminary operations; hand dressing; cleansing; crushing; jigging with and without preliminary sizing; slime concentration; milling of gold and silver ores; and description of typical dressing works and coal-washing plants in this country and abroad.

Required of third-year students in the courses of Mining Engineering and Metallurgy.

Pre-requisites: Mineralogy 3 or 4, Physics 1 or 2. Pre-requisite or parallel: Mechanics 1 or 2.

Counts, together with Mining 3 and 5, as a minor, or with Mining 5, 7a, and 8 as a major for the degree of A.M.

5—Ore dressing laboratory. Afternoon work for three weeks, second half-year. Professor MUNROE and Mr. HOOPER

During the second half of the fourth year students are instructed in the mechanical assaying of ores and coal by hand jigging and vanning, and in the adjustment and operation of concentrating machines.

Required of fourth-year students in the courses of Mining Engineering and Metallurgy.

Pre-requisite or parallel: Mining 4.

Counts, together with Mining 3 and 4, as a minor, or with Mining 4, 7a, and 8 as a major, for the degree of A.M.

6—Mine engineering. 2 hours first half-year and 1 hour second half-year. Professor MUNROE

Extraction; methods and machinery; handling mineral in working places; underground haulage. Surface handling and transportation; arrangements for loading and unloading cars and vessels, and for storing of minerals. Mineral railroads. Common roads. Drainage; sources of mine waters; methods for the control and raising of water; dams; drainage-levels. Water-supply. Ventilation; air of mines; mine gases; methods of ventilation; control and measurement of air currents. Accidents to men in shafts, levels, and working places; fire-damp and dust explosions; mine fires; inundations; rescue and relief of men.

Required of fourth-year students in the course of Mining Engineering.

Pre-requisite or parallel: Mining 3.

Counts, together with Mining 2a, 9, and 10, as a minor for the degree of A.M.

7—Mine plant. 3 hours first half-year and 2 hours second half-year. Professor PEELE

Description and critical discussion of the machinery and appliances employed in the equipment of mines; erection and care of machinery; accidents, breakage, and repairs. Hoisting-engines, drums, wire rope, skips, and cages, head-frames; calculation of power required and methods of equalizing hoisting load; devices for prevention of over-winding; shaft-sinking plant. Drainage—buckets, tanks, hand-pumps, Cornish and direct-acting pumps; operation of pumps by electricity, compressed air, and hydraulic power. Ventilation—natural ventilation, underground furnaces, positive blowers and centrifugal fans; efficiencies of fans. Air compressors—straight-line and duplex; simple and compound (stage) compression; methods of dealing with heat of compression; conveyance of compressed air in pipes; reheating; efficiencies. Machine drills—their construction and operation. Coal-mining machines or coal cutters.

Required of fourth-year students in the course of Mining Engineering.

Pre-requisites: Civil Engineering 5 and Mechanical Engineering 11. Parallels: Mechanical Engineering 12 and 13.

Counts, together with Mining 7a and 8, as a major for the degree of A.M.

7a—Mine constructions. 1 hour, second half-year. Professor PEELE

Building-stones; brick; limes; cements and concretes. Foundations in various soils; masonry, and timber construction, with special reference to mine work; mine buildings; trestles; ore-bins.

Required of third-year students in the courses of Mining Engineering and Metallurgy.

Counts, together with Mining 7 and 8, or with Mining 4, 5, and 8, as a major for the degree of A.M.

8—Design of mine plant. 4 afternoons throughout the year. Professor PEELE and Mr. HOOPER

The students are assigned problems involving the design and construction of mine plant, in connection with the development of a mine. This work supplements the lectures on the design of mining machinery, involving reading and study, and the preparation of working drawings, bills of material, specifications, and estimates.

The work is done under constant supervision and advice in the drafting-room.

Required of fourth-year students in the course of Mining Engineering.

Pre-requisites: Mechanical Engineering 1 and 2. Parallel: Mining 7.

Counts, together with Mining 7 and 7a, or with Mining 4, 5, and 7a, as a major for the degree of A.M.

9—Mine surveying. 1 hour, second half-year. Professor MUNROE

This course supplements the practical work in underground surveying in connection with the summer school in mining. It includes the general principles of underground surveying, the construction of mine maps and models of mine workings, the measurement of contracts, the location of lines for new work.

Required of fourth-year students in the courses of Mining Engineering and Metallurgy.

Pre-requisites: Civil Engineering 1, 15, and 16.

Counts, together with Mining 2a, 6, and 10, as a minor for the degree of A.M.

10—Administration and mine accounts. 1 hour, second half-year. Professor MUNROE

Administration, organization, and business management, mine accounts, and cost sheets. Examination and valuation of mines.

Required of fourth-year students in the courses of Mining Engineering and Metallurgy.

Pre-requisite or parallel: Mining 6.

Counts, together with Mining 2a, 6, and 9, as a minor for the degree of A.M.

Summer School

11—The summer school of practical mining is held in June and July, at some mine or mines selected for the purpose, in the vacation between the third and fourth years, and lasts six weeks. Professor PEELE and Assistants

Pre-requisites or parallels: Mining 3 and 4.

The course of instruction includes three weeks detailed study of the plant and methods of working at some important mine or mines; one week practical mine surveying; one week excursion to other mines and mining regions; and one week geological work, surface and underground.

The course of study includes the subjects of shaft-sinking, drifting, stoping, timbering, underground haulage, hoisting, mine drainage, ventilation, surface plant and machinery, mine buildings, shops, houses, water-supply, drainage, organization, and administration. The students are divided into small squads, and assigned each day to a foreman, or working gang of miners, or to a definite portion of the mines, for the study of some definite subject. Each squad of students is visited several times during the day by the instructor, who supplements the explanations of the miners and indicates subjects demanding special study and observation. Manual labor, and the acquirement of manual dexterity by the student, are subordinated to the development of his powers of observation, and to the careful and critical study of the work going on about him, and the recording of his observation and study in notes and sketches taken on the spot. The students' note-books are examined and criticised each evening. By thus carefully systematizing and directing the work of the student his time is economized, and as much ground is covered in a week as would be in a month under ordinary circumstances, and the work is done more thoroughly.

This summer school has been in successful operation since 1877, and has proved itself an indispensable adjunct to the course of instruction. It bears the same relation to the study of mining as laboratory work to the study of chemistry or physics, or clinical instruction and hospital practice to the study of medicine.

The summer school of 1896 was held in the Butte, Montana, copper and silver mining district. After completing the regular detail work in the Gagnon and Nettie mines, the class visited the Parrot, Anaconda, Silver Bow, and Rarus mines, also all the larger smelters in the vicinity of Butte.

In 1897 the summer school was held in Michigan. The detail work, occupying four weeks, was carried on in the mines of the Pittsburg and Lake Angeline Iron Co. Short visits were then made to the Lake Mine of the Cleveland Cliffs Iron Co., and the Lake Superior Section Sixteen mine, and finally a few days were spent in the copper district, at the Atlantic mine and mill, the surface plants of the Calumet and Hecla and the Tamarack mines, and the Calumet and Hecla concentrating mills.

In 1898 the summer school was held in West Virginia and Virginia. The detail work was done in the bituminous collieries of the Caswell Creek Coal and Coke Co., near Bramwell

West Virginia. Visits were then made to the Pocahontas, Peerless, Norfolk, Angle, Pulaski, Crozer, and Turkey Gap collieries, all situated in the Pocahontas coal field. The last week of the session was spent in the Cripple Creek iron and zinc region of Virginia, where the class visited the Bertha, Wythe, and Cedar Run mines, the Bertha zinc furnaces, and the Pulaski iron furnace.

The summer school of 1899 was held in the lead region of south-east Missouri and the Wyoming Valley coal field near Wilkes-Barre, Pennsylvania. Two weeks were occupied by study of the Central and Theodora lead mines, at Flat River, Mo., and the concentration mill at which their ore is treated. Then, from Wilkes-Barre as headquarters, the remainder of the session was devoted to visits to the Prospect, Dorrance, Maltby, Exeter, Stanton, Nottingham, Sugar Notch, and Glen Lyon collieries.

Required of students in the courses of Mining Engineering and Metallurgy, in the vacation between the third and fourth years.

Optional to the same students, if without conditions, in the vacation between the second and third years.

Graduate Courses

Special courses, consisting of personal instruction, reading, and experimental investigation, will be arranged for advanced students according to their individual needs and ability. These investigations will be made at mines and dressing works either in connection with the summer school or elsewhere as assigned, with additional work, as required, in the library and in the laboratories of the department. These courses vary in difficulty and in the amount of time necessary, according as the student is a candidate for the degree of A.M. or Ph.D., and according as he pursues Mining as a major or a minor subject. The time required is governed by the rule that a course or courses should occupy about 18 hours (outside reading and study included) a week if taken as a major subject, and about 9 hours a week if taken as a minor subject. The following are suggested :

12—Methods of mining—Critical study of methods used in some mining region, or for a certain class of deposits; output per man, amount of timber and explosive required, and other details affecting cost. Study of conditions as determining choice of method. Determination of loss of mineral in mining. Accidents to men.

Pre-requisites : all the courses in Mining.
Major for the degree of A.M. or Ph.D.

13—Mining plant—Critical study of rock drilling, or coal cutting, or hoisting, or haulage, or ventilating plant at some mine or mines. Determination of efficiency and conditions affecting same.

Pre-requisites : Mining 7 and 8.
Major for the degree of A.M. or Ph.D.

14—Deep mining—Study of problems of deep mining, vertical versus inclined shafts, hoisting and pumping from great depths, temperature and ventilation, efficiency of labor, rock pressure as affecting methods of mining and timbering.

Pre-requisites : all the courses in Mining.
Major for the degree of A.M. or Ph.D.

15—Ore dressing—Critical study of some detail of the ordinary dressing methods, crushing, or screening, or classification, or jigging, or slime treatment, or dry concentration, or magnetic separation, or milling of gold or silver

ores, or mechanical preparation of coal. Determination of efficiency, and of conditions essential to success.

Pre-requisites: Mining 4 and 5.
Major for the degree of A.M. or Ph.D.

16—Examination of a coal-washing plant, or an ore-dressing plant—4 to 6 weeks work in the mill and in the laboratory, with conferences.

Pre-requisites: Mining 4 and 5.
Minor for the degree of A.M.

17—Examination of a mineral property, or a mine—4 to 6 weeks devoted to field and underground work in the summer school of practical mining, with conferences at convenience of professor.

Pre-requisites: all the courses in Mining.
Minor for the degree of A.M.

18—Economic studies in mining—Study of existing conditions affecting the production and cost of some mineral or metal, as, for example, anthracite coal, copper, or gold.

Pre-requisites: all the courses in Mining.
Major or minor for the degree of A.M.

19—Mining and ore-dressing—Mining 3, 4, and 5. 4 hours, with laboratory work and reading as required.

Pre-requisites: Mining 1, 2, and 2a. Count together as a minor for the degree of A.M.

20—Mining engineering—Mining 2a, 6, 9, and 10. 3 hours lectures and reading as required.

Pre-requisites: Civil Engineering 5 and Mining 1, 2, and 3. Count together as a major for the degree of A.M.

21—Design of mine plant—Mining 7, 7a, and 8. 3 hours and 5 afternoons drafting-room work.

Pre-requisites: Civil Engineering 5, and Mining 1, 2, and 3. Count together as a major for the degree of A.M.

22—Design of ore-dressing works—Mining 4, 5, 7a, and 8, with 1 hour conference additional, first half-year. 3 hours and 5 afternoons laboratory and drafting-room work.

Pre-requisite: Civil Engineering 5. Count together as a major for the degree of A.M.

23—Mining—1, 2, 2a, 3, 4, 5, 6, 7, 7a, 8, 9, 10, 11, being all the undergraduate courses in the department of Mining.

Count together as a major and one minor for the degree of A.M.

Equipment

Lecture Illustrations—The lectures on mining are illustrated by about 2000 blue prints from negatives made for the purpose. These prints are collected in scrap-books illustrating the different courses of lectures, and each student has the use of one of these books for reference during the lecture, and for home study. These blue prints have many advantages over the usual form of lecture illustrations by lantern-slides or wall diagrams. The latter are, however, used when necessary to supplement the blue prints.

Mining Library—The University Library contains complete sets of the

transactions of all mining, metallurgical, and engineering societies, and of the more important periodical publications on these subjects. There is also a large and complete collection of books on mining, and all new publications of value are added as they appear. In addition, a small departmental library has been created, which is accessible to students at all times.

MINING MUSEUM—The subject of mining is illustrated by collections as follows: Maps of coal and metal mines of this and other countries. Working drawings, diagrams, and photographs of mine plant, and of mining and dressing machinery. Models of mines; of shafts, tunnels, and galleries, illustrating methods of sinking, driving, timbering, tubbing, and walling. Models of deep-boring apparatus, shaft-head gear, man engines, pumps, ventilators, safety-cages, mine cars, crushers, stamps, ore washers, shaking tables, and other dressing machines. Mining tools and mining machines: picks, shovels, sledges, drills, blasting apparatus, lamps, safety-lamps, anemometers, hand-power and machine drills. Ores and dressing products from typical works in this and other countries. Surveying instruments: geological compasses and clinometers, attraction compasses, dipping needles, hanging compasses and arcs, transits, lamp signals, rods, and apparatus for plumbing and measuring shafts.

Among the more notable exhibits are large relief models of two mines of the Cleveland Cliffs Iron Mining Co. of Michigan, a similar model of the Saratoga gold mine in Colorado, a set of three glass models and two relief models of the Copper Queen mine in Arizona, and a glass model of the Calumet and Hecla and Tamarack copper mines. There is also a large model of the St. Joseph Lead Co.'s dressing works at Bonne Terre, Missouri.

A very complete collection of working drawings of mine plant, and an unusually large collection of underground photographs, taken by magnesium light, are worthy of particular notice.

MINING LABORATORIES—Seven large rooms in the basement and sub-basement of Engineering are being equipped as laboratories for the Department of Mining. These laboratories are not intended to replace the careful study of mining methods and of the operations of ore dressing at the mines and dressing works in connection with the summer school of mining, but are intended to supplement such study, and in particular to afford opportunities that cannot be obtained at the mines. When completed these laboratories will be unique in many respects, and in advance of anything yet attempted at any mining school, and will afford unequalled opportunities for study and research.

These laboratories will include:

THE LABORATORY FOR MECHANICAL ASSAYS which contains small crushers, rolls, and screens, and conveniences for sampling, hand-picking, jigging, and vanning small samples of ore, and for panning gold-bearing gravel.

THE LABORATORY FOR WORKING TESTS will contain small power jigs, a hand-jig, a buddle, a frame, a keeve, and other similar apparatus for working a ton or more of ore at a time.

THE LABORATORY OF DRESSING MACHINERY will contain full-sized machines of standard types, each arranged so that the products, heads, middlings, and tailings are returned at once to the same machine for retreat-

ment. With a small quantity of ore each machine can thus be operated as long as may be necessary, and the student is afforded an opportunity to become familiar with the adjustments of the machine and the tests of proper and successful working. The apparatus now being installed includes a two-sieve-jig, a three-sieve jig, and a five-sieve jig, a round table, and a vanner, and the necessary crushing and screening apparatus and classifiers.

The Laboratory for Milling Gold and Silver Ores includes a stamp mill, copper plates, pan, and settler, which will be arranged to be run in connection with concentrating apparatus when necessary.

Mines and Dressing Works—Numerous coal, iron, and other mines, slate and stone quarries, and metallurgical works are easily accessible from New York in from one to four hours by rail: magnetic iron mines in New York, New Jersey, and Pennsylvania; hematite mines and stone quarries in the same states and in Connecticut; anthracite mines in Pennsylvania; and zinc mines in New Jersey and Pennsylvania. New York and adjacent states produce each year more than half the pig-iron and coal, and over one third of the total value of the mineral product of the whole country. New York City is the headquarters of numerous corporations operating mines and metallurgical works in this and other countries, and is one of the most important mining centres of the world. Within a radius of one hundred miles of New York City may be studied the best practice in mining and metallurgy under most varied conditions, and the most modern and effective mining and dressing machinery and smelting plants in the country. By going a little farther one may reach the bituminous coal fields and the natural gas, oil, and salt regions in one direction, and the pyrites deposits and granite and marble quarries of Vermont in the other; while the excursions of the summer class in mining extend as far as the iron, copper, lead, zinc, silver, and gold regions of Michigan, Missouri, Montana, and Colorado.

Music

Edward Alexander MacDowell, Mus. Doc. *Professor*
Leonard Beecher McWhood, A.B. *Tutor*
Gustav Hinrichs. *Conductor*

The courses in this department fall into four divisions: the technic of musical composition, general musical culture, musical dictation, and practical training in orchestral and choral music. The aim of the technical courses is to teach music theoretically and scientifically with a view to training musicians competent to teach and to compose. In the general courses, music is treated historically and æsthetically as an element of liberal culture; the technical side of the art is explained, and the lectures are supplemented by illustrations and analysis.

Courses

1—General musical culture—The origin of music and its relation to speech and the emotions. Primitive music and instruments. The history of music from the earliest times up to the 19th century. Acoustics; form; analysis; musical instruments in use up to the present century, with practical illustrations. 1 hour. Professor MacDowell

2—General musical culture—This course, which is a continuation of Course 1, treats of the development of forms, the song, romanticism, instrumental development and the composers for piano-forte, the virtuoso, modern orchestration and symphonic forms, the music drama, impressionism versus absolute music, and color versus form, the relationship of music to other arts, musical criticism. 1 hour. Professor MACDOWELL

Courses 1 and 2, while outlining the purely technical side of music, aim at giving a general idea of it from its historical and æsthetic side. They are open to all properly qualified university students, and, with the consent of the Dean, to all properly qualified students of the College.

3—Harmony—This course treats of general theory, harmony, chords and their mutual significance, altered chords, suspensions, modulation, and analysis. 2 hours. Lectures and class-work. Mr. MCWHOOD

Open to all properly qualified university students, and, with the consent of the Dean, to all properly qualified students of the College.

4—Counterpoint—This course treats of counterpoint, canon, fugue, and analysis. The first half-year is confined to vocal writing; the second half-year includes instrumental writing. 2 hours. Lectures and class-work. Professor MACDOWELL

Open to all students who have taken Course 3, and to such persons, otherwise qualified, as can demonstrate to the Professor of Music, by examination or otherwise, that they are competent to profit by it.

5—Orchestration—This course treats of free composition, analysis, instrumentation, and symphonic forms. 2 hours. Lectures and class-work. Professor MACDOWELL

Open to all students who have taken Course 4, and to all persons, otherwise qualified, who can demonstrate to the Professor of Music, by examination or otherwise, that they are competent to profit by it.

6—Melodic, rhythmic, and harmonic dictation, and the practical analysis of chords. 1 hour. Mr. MCWHOOD

Open to all properly qualified university students, and, with the consent of the Dean, to all properly qualified students of the College.

7—Musical Seminar—This course treats of free harmony and the practical composition of music. It may be considered as a continuation of Course 3. 1 hour. Professor MACDOWELL

Open to all students who have taken Course 3, and to such persons, otherwise qualified, as can demonstrate to the Professor of Music, by examination or otherwise, that they are competent to profit by it.

8—University chorus. 2 hours. Mr. HINRICHS

9—University orchestra. 2 hours. Mr. HINRICHS

Courses 8 and 9 do not count toward a degree; they are open, without fee, to all properly qualified college or university students.

Equipment

A collection of music and of books of reference is placed at the disposal of students. It includes many orchestral and opera scores, the piano-forte classics, and vocal music, besides many theoretical, historical, and biographical works. The department has, also, a collection of instruments for the use of students participating in the University Orchestra.

Neurology

M. ALLEN STARR, M.D., LL.D. *Professor*
FREDERICK PETERSON, M.D. *Chief of Clinic*
WILLIAM H. CASWELL, M.D. *Clinical Assistant*
MORTON R. PECK, M.D. *Clinical Assistant*
PEARCE BAILEY, M.D. *Clinical Assistant*
C. E. ATWOOD, M.D. *Clinical Assistant*
A. W. FERRIS, M.D. *Clinical Assistant*
ARCHIBALD CAMPBELL, M.D. *Clinical Assistant*
R. H. CUNNINGHAM, M.D. *Clinical Assistant*
A. B. BONAR, M.D. *Clinical Assistant*
S. P. GOODHARDT, M.D. *Clinical Assistant*
M. MAILHOUSE, M.D. *Clinical Assistant*
SMITH ELY JELLIFFE, M.D. *Clinical Assistant*
B. E. KRYSTALL, M.D. *Clinical Assistant*

Courses

1—The diseases of the mind and nervous system—Didactic lectures. 1 hour for five months with demonstrations, illustrated with the magic-lantern, of the pathology of nervous diseases. Professor STARR

Required, in the third and fourth years, of candidates for the degree of M.D.

2—Clinical lectures at the Vanderbilt Clinic—At these clinics all forms of nervous disease, including insanity, are demonstrated. During the months of didactic instruction the clinics are so arranged as to illustrate the clinical side of the subject lectured upon. 1 hour. F. at 2 P.M. Professor STARR

Required, in the fourth year, of candidates for the degree of M.D.

3—Practical instruction in neurology—"Section teaching," by the chief of clinic, at which a division of fifteen students is taught the practical examination of nervous patients, including electro-diagnosis and electro-therapeutics. 10 lessons for each student in the Vanderbilt Clinic. Dr. PETERSON

Required, in the fourth year, of candidates for the degree of M.D.

4—Insanity—4 clinics at the Ward's Island Insane Asylum. S. in October at 2 P.M. Dr. PETERSON

Optional, in the fourth year, for candidates for the degree of M.D.

Normal Histology

(See page 147)

Obstetrics

EDWIN B. CRAGIN, M.D. *Professor*
ERVIN A. TUCKER, M.D. *Tutor*
JAMES D. VOORHEES, M.D. *Instructor*

Courses

1—Theory and practice of obstetrics—Lectures. 3 hours, from October 1 to March 15. Professor CRAGIN

Required, in the third year, of candidates for the degree of M.D.

2—Recitations and demonstrations. 1 hour, for each student in the second year of the curriculum. One sixth of the class receives instruction daily, by recitations and demonstrations, in which specimens and models from the anatomical, physiological, and pathological museums are used. Dr. TUCKER

Required, in the second year, of candidates for the degree of M.D.

3—Practical instruction at the Sloane Maternity Hospital—Members of the graduating class in medicine are required each to attend at this hospital a certain number of cases of labor. For this purpose the students of the fourth year are divided, at the beginning of the academic year, into sections of six, each section remaining on duty for two weeks. During this time they are furnished with lodgings, free of charge, in the hospital, so that they may be summoned quickly to cases of emergency. Daily bedside instruction is given by the Instructor, who is the resident physician at the Sloane Hospital, and an examination on the work of the week is held there by him every Saturday. A daily clinical lecture is also given at the hospital, and instruction upon the manikin. Dr. VOORHEES

Required, in the fourth year, of candidates for the degree of M.D.

The Sloane Maternity Hospital

(See Index.)

The Sloane Maternity Hospital is situated upon the grounds of the College of Physicians and Surgeons, and the service is under the exclusive direction of the Professor of Obstetrics in the College, the Instructor in Obstetrics being the resident physician.

The wards of the Hospital since its recent enlargement furnish one hundred and sixteen beds, and there are ample accommodations for the house staff, students, and nurses.

The operating-room is equipped with all modern surgical and obstetrical conveniences, and has seating accommodation for fifty-one students.

The number of deliveries averages over eleven hundred a year. These, with the obstetric operations and the subsequent treatment of women and infants, afford invaluable practical experience, such as is offered at no other medical school in this country.

Ophthalmology

HERMAN KNAPP, M.D.....*Professor*
CHARLES H. MAY, M.D....*Chief of Clinic and Instructor in Ophthalmology*
JOHN HERBERT CLAIBORNE, M.D.....*Clinical Assistant and Instructor in Refraction and Motility*
WARD A. HOLDEN, M.D.....*Clinical Assistant*
HENRY H. TYSON, M.D*Clinical Assistant*
JACKSON M. MILLS, M.D.....*Clinical Assistant*
CURTIS B. CARTER, M.D.....*Clinical Assistant*

Courses

1—Clinical lectures, at the Vanderbilt Clinic, upon the diseases of the eye—In selected cases the diagnosis is made, treatment applied, and minor operations are performed before the class.

After the lectures, as opportunity offers, microscopic demonstrations of the pathological histology of the eye are made by Dr. Holden. 1 hour. Tu. at 2 P.M. Professor KNAPP

Required, in the third year, of candidates for the degree of M.D.

2—Practical instruction, at the Vanderbilt Clinic, in the use of the ophthalmoscope. 6 lessons for each student. Dr. MAY

Required, in the third year, of candidates for the degree of M.D.

3—Practical instruction, at the Vanderbilt Clinic, in the refraction and motility of the eye. 6 lessons for each student. Dr. CLAIBORNE

Required, in the third year, of candidates for the degree of M.D.

4—Hospital clinics in the diseases and the operative surgery of the eye, at the New York Ophthalmic and Aural Institute, 44 and 46 East 12th Street. Wed. from 2 to 3.40 P.M. To these clinics the students are invited in sections. Professor KNAPP

Optional, in the third year, to candidates for the degree of M.D.

ORIENTAL LANGUAGES

Semitic Languages

RICHARD J. H. GOTTHEIL, Ph.D. *Professor*
ABRAHAM YOHANNAN, A.M. *Lecturer*

Courses 1, 2, 3, 4, 10, 12, 13, 15, 16, and 17, and the seminar, are open to seniors in Columbia College and to university students; Courses 5, 6, 7, 8, 9, 11, 14, to advanced students only. Courses 1, 2, 4, 10, 11, 12, 13, 15, 16, are open also to juniors in Columbia College.

All the courses in Semitic Languages except the seminar are open to auditors.

Courses in Hebrew

The course in Hebrew extends over three years. The first year is devoted to the study of the elements; the second, to the study of the syntax and the acquiring of ease in translating from Hebrew into English and from English into Hebrew; the third, to a critical study of one or more books of the Bible.

The attention of students in the College is directed to the fact that it is desirable that those who intend entering a theological seminary after graduation shall have had at least two years' previous training in Hebrew. Opportunity for this training is given the students of Columbia College, Hebrew being an elective in both the junior and senior classes.

1—Biblical Hebrew, elementary course—Davidson's *Introductory Hebrew Grammar*. 2 hours. Professor GOTTHEIL

2—Biblical Hebrew, second course—Rapid reading of the Books of Samuel and Kings in connection with Gesenius' *Hebräische Grammatik* (26th ed.) and Driver's *Hebrew Tenses* (3d ed.). 2 hours, first half-year. Professor GOTTHEIL

3—Biblical Hebrew, third course—Interpretation of the Book of Jeremiah. 2 hours, second half-year. Professor GOTTHEIL

4—Rabbinical Hebrew—Selected readings from the Midrashic literature. 2 hours, first half-year. Professor GOTTHEIL

5—Rabbinical Hebrew—Selected readings (in Hebrew and Arabic) from the Jewish philosophical writings of the Middle Ages. 2 hours, second half-year. Professor GOTTHEIL

For Courses 4 and 5, a previous knowledge of Biblical Hebrew is demanded.

6—Rabbinical Hebrew—The newly discovered text of Ecclesiasticus. 2 hours, second half-year. Professor GOTTHEIL

Courses in Semitic Epigraphy

7—Interpretation of the Phœnician inscriptions, with an introduction to Semitic palæography and the history of the alphabet. 1 hour. Professor GOTTHEIL

8—Interpretation of the Aramæan inscriptions of Sinjirli (*Mittheilungen aus den Orientalischen Sammlungen*, Heft xi, Berlin, 1893), and of the *Corpus Inscriptionum Semiticarum*, vol. ii. 1 hour. Professor GOTTHEIL

Given in 1900–1901.

9—Interpretation of the Sabæan and Hymyaritic inscriptions contained in the *Corpus Inscriptionum Semiticarum*, vol. iv. 1 hour. Professor GOTTHEIL

Given in 1901–1902.

For Courses 7 and 8, which are open to advanced students only, a previous knowledge of Hebrew and Aramæan, respectively, is demanded; for Course 9, a previous knowledge of Arabic.

Courses in Assyrian

10—Elementary course—Study of the Syllabary, with readings from selected portions of Abel and Winckler's *Keilschrifttexte zum Gebrauch bei Vorlesungen*, and the study of Delitzsch's *Assyrian Grammar*. 2 hours. Professor GOTTHEIL

11—Advanced course—The Babylonian accounts of the creation and flood (Paul Haupt, *Das Babylonische Nimrodepos*, and Fr. Delitzsch, *Assyrische Lesestücke*). Assyrian Syllabaries. 2 hours. Professor GOTTHEIL

Given in 1900–1901.

Courses in Arabic

12—Elementary course—Study of Socin's *Arabic Grammar* with exercises in translating Arabic into English and English into Arabic. 2 hours, first half-year. Professor GOTTHEIL

13—Second course—Study of Brünnow's *Chrestomathie aus arabischen Prosaschriftstellern*. 2 hours, second half-year. Professor GOTTHEIL

14—Third course—Advanced work. First half-year: Interpretation of the oldest Suras of the Koran. Second half-year: Interpretation of selections from al-Buchari's collection of traditions. 2 hours. Professor GOTTHEIL

Courses in Syriac

15—First course. First half-year: Nöldeke's *Syrische Grammatik*, in connection with selected readings from the Peshitta. Second half-year: Interpretation of selected portions of the *Acta Martyrum* (ed. Bedjan). 2 hours. Professor GOTTHEIL and Mr. YOHANNAN

16—Second course. First half-year: Interpretation of Lagarde's *Analecta Syriaca*. Second half-year: Interpretation of the Syriac Grammar (*Kethābhā dhesemhē*) of Bar Hebraeus. 2 hours. Professor GOTTHEIL

[In case there should be a demand for instruction in Modern Syriac, Mr. Yohannan will make arrangements for a course.]

Course in Ethiopic

17—Principles of the grammar and easy readings in connection with Prætorius' *Aethiopische Grammatik*. 1 hour. Professor GOTTHEIL

Given in 1900–1901.

Semitic Seminar

18—The seminar will take up the study of current questions in Semitic philology with special reference to modern methods of linguistic research.

Tu. evening at 8.15.

Attendance at the seminar meetings will be obligatory upon candidates for the degrees of Master of Arts and Doctor of Philosophy whose major subject is in Semitic Languages. The meetings are open also to advanced students one of whose minor subjects is in the department of Semitic Languages.

Course in Turkish

First half-year: Principles of the grammar, in connection with the study of A. Müller's *Türkische Grammatik* (*Porta Linguarum Orientalium*, pars xi). Second half-year: Exercises in Turkish conversation and in the reading of Turkish newspapers. 2 hours. Mr. YOHANNAN

Courses in Semitic Languages at the Union Theological Seminary

A detailed announcement of these courses is given in the circular issued by the division of Oriental Languages. Such courses may be counted as part of the work required for the degrees of Master of Arts and Doctor of Philosophy.

Indo-Iranian Languages

A. V. WILLIAMS JACKSON, L.H.D., Ph.D.....*Professor*
ABRAHAM YOHANNAN, A.M.....*Lecturer*

The courses of instruction in this department are intended to be introductory to the study of comparative philology and of the history of religion, as well as to the study of the history, antiquities, and literature of India and Persia and also of Armenia. The course arranged for beginners in Sanskrit, Indo-Iranian 1, may be taken with advantage in connection with any of the Latin, Greek, or other linguistic courses.

Courses 1, 2, and 3 are open to all university students (including seniors in Columbia College as well as candidates for higher degrees and special students).

In the case of Course 1, candidates for higher degrees will be required to supplement the study by some additional work that will be assigned, or by taking some kindred course in the department. Course 1 may also be taken as an elective by juniors in the College. Courses 4, 5, 6, 7, 10, 11, and 12 are open to advanced students only. Courses 8 and 9 are open to students pursuing one other course in the department.

Courses 1, 2, 3, 4, and 11 are intended to be given each year. Courses 5, 6, 7, 8, and 12 form a supplementary series. Two of this series will be given each year according to the requirements of the students in attendance.

Course 9, on some special Iranian subject, and Course 10, on Zoroaster and Buddha and their teaching, will be offered every second and third year respectively.

Course 11 is open to auditors, and to women on the same terms as to men.

Courses

1—Sanskrit, elementary course. Whitney's *Grammar*, Perry's *Primer*, Lanman's *Reader*. 3 hours. Professor JACKSON

2—Avestan, elementary course—Grammar and reading of texts. Jackson's *Avesta Series: Part I, Grammar; Part II, Texts*. 2 hours. Professor JACKSON

3—Sanskrit, advanced course. First half-year: Daṇḍin's *Daśakumāracarita* with the native Commentary; or a Sanskrit drama. Second half-year: Introduction to the study of the Veda. 2 hours. Professor JACKSON

4—Avestan, advanced course — Interpretation of texts, antiquities, and literature. Geldner's *Text of the Avesta*. 2 hours. Professor JACKSON

Not given in 1899–1900. To be given in 1900–1901.

5—Pāli, elementary course. E. Müller's *Simplified Pāli Grammar*, Elwell's *Nine Jātakas*. 1 hour. Professor JACKSON

Not given in 1899–1900. To be given in 1900–1901.

6—Old Persian cuneiform inscriptions. Spiegel's *Die altpersischen Keilinschriften*, Bartholomae's *Handbuch der altiranischen Dialekte*, Weissbach and Bang's *Die altpersischen Keilinschriften*. 1 hour, first half-year. Professor JACKSON

This course is to run parallel with the advanced Avestan.

7—Pahlavi, introductory course. C. de Harlez's *Manuel du Pehlevi*. 1 hour, second half-year. Professor JACKSON

This course is to run parallel with the advanced Avestan.

8—Sanskrit literature—Lectures on some branch of the literature; rapid reading of assigned texts. 1 hour, first half-year. Professor JACKSON

9—Zoroastrian Gāthās. Reading of texts with the Pahlavi and the Sanskrit version. 1 hour. Professor JACKSON

11—Modern Persian, introductory course. First half-year: Grammar and reading. Salemann and Shukovski's *Persische Grammatik*. Second half-year: Interpretation of Sa'di's *Gulistān*. 2 hours. Mr. YOHANNAN

12—Modern Persian, second-year course. Selections from Hāfiz. 2 hours. Mr. YOHANNAN

Course in Armenian

1—Principles of the grammar, with selected readings. 2 hours. Mr. YOHANNAN

Seminar

Indo-Iranian Seminar. 1 hour. Professor JACKSON

Lectures

A course of afternoon lectures on the literature, antiquities, and religion of ancient India and Persia, open to all students of the University and to auditors, is given during the winter months. Public announcement will be made when these lectures are to be delivered.

Course in the Study of Language

Introduction to the study of language. 2 hours. Professor JACKSON and Professor GOTTHEIL

Equipment

The Columbia University Library (285,000 volumes) contains most of the important periodicals which deal with Oriental research, among them the *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, *Journal of the Royal Asiatic Society*, *Journal Asiatique*, *Journal of the American Oriental Society*, *American Journal of Philology*, *Transactions of the American Philological Association*, *Wiener Zeitschrift für die Kunde des Morgenlandes*, *Indische Studien*, *Zeitschrift für Keilschriftforschung*, *Zeitschrift für Assyriologie*, *Revue Sémitique*, *Proceedings of the Society of Biblical Archæology*, *Beiträge zur Assyriologie*, *Zeitschrift für Aegyptische Sprache*, *Revue d'Histoire des Religions*, *Revue des Études Juives*, *Orientalische Bibliographie*, *Hebraica*, a complete set of the publications of the various Congresses of Orientalists, *Jewish Quarterly Review*, *Revue d' Assyriologie;* of periodicals of wider range which contain matter of interest to Orientalists, *Zeitschrift für vergleichende Sprachforschung*, Bezzenberger's *Beiträge zur Kunde der Indogermanischen Sprachen*, *Göttingische Gelehrte Anzeiger*, *Indogermanische Forschungen*, *Archiv für Religionswissenschaft;* and many weekly periodicals such as *The Academy*, *Literarisches Centralblatt*, *Philologische Rundschau*, *Revue Critique*. The library has quite a rich collection of the publications of the learned societies of Europe—*e.g.*, of the Academies of Berlin, Vienna, Leipzig, St. Petersburg, Brussels, Paris, and Rome (Lincei).

The books relating to East Indian and Iranian subjects in the University Library comprise already a good collection of the most important text-editions and works of reference, and additions are constantly being made. In Semitic philology, most of the best works will be found in the library; care has been taken, especially in Assyriology, to buy all the more important publications. In the Avery Architectural Library, most of the monumental works relating to Eastern art and archæology will be found. Through the generosity of the trustees of Temple Emanuel, the Library now possesses the most complete collection of works in Rabbinical Hebrew to be found in this country. There is also a small collection of Hebrew, Arabic, and Persian MSS., designed for the

use of advanced students. The collections of the University Library are supplemented in the most valuable way in all branches of Orientalia by those of the Astor Library, where the privileges of an alcove-reader may be secured by the advanced student. A collection of old Babylonian tablets has been added to the department. These, together with the casts of tablets in the Metropolitan Museum of Art, furnish material for those who wish to devote themselves especially to the study of Babylonian and Assyrian.

The library of the Union Theological Seminary, which is accessible to advanced students at Columbia University, contains all the current theological periodicals—*e.g.*, Stade's *Zeitschrift für Alttestamentliche Wissenschaft*, *Theologische Litteratur-Zeitung*, *The Expositor*.

Orthopædic Surgery

VIRGIL P. GIBNEY, M.D.....*Professor*
ROYAL WHITMAN, M.D.....*Chief of Clinic and Instructor in Orthopædic Surgery*
LEONARD W. ELY, M.D.....*Clinical Assistant*
HORACE S. STOKES, M.D.....*Clinical Assistant*
NEWTON B. WALLER, M.D.....*Clinical Assistant*
LOUIS R. WELZMILLER, M.D.....*Clinical Assistant*

Courses

1—Clinic in orthopædic surgery and diseases of joints at the Vanderbilt Clinic. 1 hour a week. F. at 12. Professor GIBNEY

Required, in the fourth year, of candidates for the degree of M.D.

2—Practical instruction at the Vanderbilt Clinic to classes of 20 members each. 12 lessons. Dr. WHITMAN

Required, in the fourth year, of candidates for the degree of M.D.

3—Operations at the Hospital for Ruptured and Crippled. Tu., 8.30 A.M. Professor GIBNEY

Optional, in the fourth year, for candidates for the degree of M.D.

Otology

ALBERT H. BUCK, M.D.....*Clinical Professor*
WILLIAM COWEN, M.D.....*Instructor and Chief of Clinic*
ROBERT LEWIS, Jr., M.D.....*Instructor*
ALLAN G. TERRELL, M.D.....*Clinical Assistant*
M. L. CARR, M.D.....*Clinical Assistant*
ALFRED MICHAELIS, M.D.....*Clinical Assistant*

Courses

1—Practical instruction in the diagnosis of the diseases of the ear at the Vanderbilt Clinic. 8 lessons for each student. Drs. COWEN and LEWIS

This instruction is given to the students in sections of ten men each, Mondays and Fridays at 2 P. M.

2—Didactic instruction in pathology and therapeutic methods at the Vanderbilt Clinic. 4 lectures for each student. Professor BUCK

This instruction is given to the students in sections of twenty men each, on Wednesdays at 2 P. M.

Pathology

(*Including Pathology, Normal Histology, Bacteriology, Clinical Microscopy, and Photomicrography.*)

T. Mitchell Prudden, M.D.....*Professor of Pathology and Director of the Associated Laboratories*
George C. Freeborn, M.D.....*Instructor in Normal Histology*
Philip Hanson Hiss, Jr., Ph.D., M.D.....*Instructor in Bacteriology and Alonzo Clark Scholar*
Ira Van Gieson, M.D.....*Instructor in the Normal Histology and Pathology of the Nervous System*
Eugene Hodenpyl, M.D.....*Instructor in Pathology*
Francis C. Wood, M.D.....*Instructor in Clinical Microscopy and Demonstrator of Pathology*
John H. Larkin, M.D.....*Assistant in Pathology and Curator of the Museum of Pathology*
Edward Leaming, M.D.....*Instructor in Photography*
Augustus J. Lartigau, M.D.....*Tutor in Pathology*
Frederick Randolph Bailey, M.D.....*Assistant in Pathology and Normal Histology and Alumni Association Fellow in Pathology*
Oliver S. Strong, Ph.D.....*Assistant in Normal Histology*
D. Stuart Dodge Jessup, M.D.....*Assistant in Normal Histology*
Eli Long, M.D.....*Assistant in Normal Histology*
Ernest Nash Wilcox, M.D.....*Assistant in Normal Histology*
John S. Thacher, M.D.....*Demonstrator of Pathology*
George P. Biggs, M.D.....*Demonstrator of Pathology*
William F. Neumann, M.D.....*Assistant in Bacteriology*
Augustus B. Wadsworth, M.D.....*Assistant in Bacteriology, and Alumni Association Fellow in Pathology*
Evan M. Evans, M.D.....*Assistant in Clinical Microscopy*

For convenience of administration, and for the better association of allied themes, the laboratories of Pathology, Normal Histology, Bacteriology, Clinical Microscopy, and Photography are grouped together in the department of Pathology under the direction of the Professor of Pathology.

Courses in Pathology

1—Autopsy technique and pathological anatomy—Systematic instruction in the making of autopsies, with the demonstration of lesions, is given in turn to small sections of the second-year class in preparation for the more extended study of pathology in the third year, either at the College or at the Roosevelt, Presbyterian, New York, St. Luke's, or Bellevue Hospital. Once a week for eight weeks. Drs. Hodenpyl, Thacher, Biggs, and Wood

Required, in the second year, of candidates for the degree of M.D.

2—Practical instruction in general pathology, pathological anatomy and histology, and in the bacteriology of the infectious diseases is given in the east laboratory on the top floor of the north wing of the Medical School. Each student is given about one hundred sections or other permanent preparations, illustrating the more important and common lesions. These he mounts for the

microscope, and studies, making notes and sketches. This collection of specimens he retains for future reference.

The systematic course opens with a study of the various phases of degeneration and inflammation ; tumors are next studied ; then the acute infectious diseases, their lesions and their relationship to micro-organisms. The remainder of the course is devoted to the systematic study of the lesions of the viscera. Each student is furnished with a microscope and the necessary instruments and re-agents. He is required to bring for reference in the laboratory the collection of slides prepared and studied in the course of normal histology. Delafield and Prudden's *Handbook of Pathological Anatomy and Histology* is used in this course. 6 hours a week for one half of the academic year. Professor PRUDDEN and Drs. HODENPYL, VAN GIESON, LARKIN, BAILEY, and LARTIGAU

Required, in the third year, of candidates for the degree of M.D.

3—Demonstrations in pathological anatomy—A demonstration is made twice a week to the class in pathology, in sections, of the material which may be newly gathered and from the permanent collection for the illustration of special themes. Drs. HODENPYL and LARKIN

Required, in the third year, of candidates for the degree of M.D.

4—Pathological anatomy and histology, experimental pathology, bacteriology as applied to medicine, and clinical microscopy. A limited number of graduates in medicine, or other advanced workers, are admitted to the special laboratories for the pursuit of advanced lines of study in these themes. Professor PRUDDEN, Drs. FREEBORN, HODENPYL, VAN GIESON, WOOD, and HISS

Courses in Normal Histology

1—Practical instruction in general normal histology is given in the east laboratory on the upper floor of the north wing of the Medical School. Sections and other preparations of the simple tissues and the more important thoracic and abdominal viscera of the normal body are given to each student during the course. These he is required to mount and study under the microscope, making notes and drawings of the entire series of specimens. This collection he retains for future reference, especially in the course in practical pathology in the third year (see above). Each student is supplied with a microscope and with a tray of instruments and re-agents. Stöhr's *Text-Book of Normal Histology* is used in this course. 6 hours a week for one half of the academic year. Drs. FREEBORN, BAILEY, JESSUP, WILCOX, and LONG

Required, in the first year, of candidates for the degree of M.D. Elective for seniors in Columbia College.

2—Practical instruction similar in character and method to that under 1, but embracing as special themes the central nervous system, the skin, and the organs of special sense. 4 hours a week for one half of the academic year. Drs. VAN GIESON, FREEBORN, BAILEY, STRONG, JESSUP, WILCOX, and LONG

Required, in the second year, of candidates for the degree of M.D.

3—Practical instruction in microscopic technology is given to a limited number of graduates in medicine, or other qualified workers, in the special laboratories on the fourth floor of the north wing of the College Building. Dr. FREEBORN

Courses in Bacteriology

1 — Practical instruction in bacteriology is given in the west laboratory on the fifth floor of the north wing of the College Building. This course opens with the study of the relationship of bacteria to other micro-organisms. It embraces the methods of staining, examining, and cultivating. The student is taught by practical exercises the methods of separating one species of bacteria from another, and the series of biological characters used in identification of the various forms. The general relationship of certain micro-organisms to disease is considered and illustrated. Finally some of the hygienic aspects of bacteriology are studied by experiments in the sterilization of infectious materials, disinfection of the hands, and by practice in biological air, water, milk, and soil analysis. 6 hours a week for one quarter of the academic year. Drs. HISS, NEUMANN, and WADSWORTH

Required, in the second year, of candidates for the degree of M.D.

2 — Special laboratory course. There is an opportunity each year for a few graduates in medicine, or other qualified workers, to receive a special course in practical bacteriology. The laboratory is abundantly supplied with apparatus for the culture and study of micro-organisms, and has under cultivation a large collection of identified species. In this course the applications of bacteriology to sanitation and to practical medicine are held in view.

Methods of preparation, staining, microscopic study, and measurement of bacteria. Preparation of culture media; study and record of observation of selected typical species; systematic analyses for determination of unknown species; methods of isolation of species; qualitative and quantitative biological examinations of water, soil, and air; methods of determining pathogenic properties, disinfection, modes of testing value of germicides.

Text-books: Abbott's *Principles of Bacteriology*, Sternberg's *Bacteriology*.

This course is given but once during the year and requires attendance at the laboratory for the entire afternoon in January, February, and March. Drs. HISS and WADSWORTH

Minor for the degree of A.M. or Ph.D.

3 — Laboratory course — As under Course 2, with additional study and determination of known species of bacteria; special study of the chemical products formed in the growth of bacteria; practical work in photomicrography, and the pursuit of some selected theme for original investigation. Professor PRUDDEN, and Drs. HISS and LEAMING

Major for the degree of A.M. or Ph.D.

Courses in Clinical Microscopy

1 — Practical instruction in clinical microscopy is given in the west laboratory on the fifth floor of the north wing of the College Building. This course embraces the practical study of blood, urine, sputum, stomach contents, fæces, and milk, and instruction in such methods of clinical diagnosis as involve the usual microscopical, bacterial, and chemical analyses. 6 hours a week for one quarter of the academic year. Drs. WOOD, LARTIGAU, and EVANS

Required, in the fourth year, of candidates for the degree of M.D.

2 — Special laboratory course in clinical microscopy. Opportunity is offered each year to a limited number of qualified workers for advanced study on selected themes in the special laboratory for clinical microscopy. Dr. WOOD

Photography, Photomicrography, and Skiagraphy

Practical instruction is given to a limited number of men in the photographic laboratories of the College, in the technique of photography, photomicrography, and skiagraphy for scientific purposes.

The time necessary for the acquirement of this technique varies with the facility of the student and the hours devoted to the theme, and is subject to special arrangement.

The facilities of these laboratories may be drawn upon for purposes of record and illustration by instructors in various departments of the College and by others. Dr. LEAMING

Research

Research in pathology and bacteriology may be pursued in the laboratories of this department by a limited number of graduate students or practitioners of medicine or other advanced workers, under the direction of the Professor. To such men the large collection of pathological specimens preserved for microscopical study and the collection of bacterial cultures belonging to this department are accessible. Professor PRUDDEN

Fellowships

For the fellowships open to persons wishing to do special work under the Professor of Pathology, see page 30.

Museum

The Museum of Pathology is made use of in the work of this department, both for the instruction of medical students, and as a place of deposit for specimens showing new or rare forms of lesions.

Equipment

The department of Pathology occupied in the autumn of 1895 the large additional space which the new college buildings furnish. The large classroom on the upper floor of the north wing is used, as formerly, for the class in normal histology and in pathology. The fourth floor is devoted to the pathological museum and to a large preparation laboratory, a workshop, cold-storage, and the like. The new space is devoted to a general laboratory and to private rooms for instructors and advanced workers in pathology, to undergraduate and to research work in bacteriology and clinical microscopy, and to a departmental library.

The entire space, new and old, is amply lighted, fully furnished, and equipped with such new apparatus as the rapidly growing sciences of pathology, bacteriology, and closely allied themes require.

Philosophy, Psychology, Anthropology, and Education

NICHOLAS MURRAY BUTLER, Ph.D., LL.D. *Professor*
JAMES MCKEEN CATTELL, Ph.D. *Professor*
JAMES HERVEY HYSLOP, Ph.D. *Professor*
MOSES ALLEN STARR, M.D. *Professor*
FRANZ BOAS, Ph.D. *Professor*
LIVINGSTON FARRAND, A.M., M.D. *Instructor*
CHARLES AUGUSTUS STRONG, A.B. *Lecturer*
ADAM LEROY JONES, Ph.D. *Assistant*
GEORGE BALTHAZAR GERMANN, Ph.D. *Assistant*
CLARK WISSLER, Ph.D. *Assistant*
JAMES EARL RUSSELL, Ph.D. *Professor in Teachers College*
FRANK MORTON MCMURRY, Ph.D. *Professor in Teachers College*
FRANKLIN THOMAS BAKER, A.M. *Professor in Teachers College*
PAUL MONROE, Ph.D. *Professor in Teachers College*
EDWARD LEE THORNDIKE, Ph.D. *Instructor in Teachers College*
RUDOLPH REX REEDER *Instructor in Teachers College*
CHARLES BENJEH GILBERT, A.B. *Lecturer in Teachers College*

The courses of this Division (comprising the Department of Philosophy and Education, and that of Psychology and Anthropology) fall into four groups, those on Philosophy, those on Psychology, those on Anthropology, and those on Education. In each group are courses intended primarily for undergraduates. These are best described as introductory courses, and their aim is to furnish a general acquaintance with the main subdivisions of Philosophy, Psychology, and Education as a whole. The courses known as Philosophy **1** and **2**, Psychology **A**, **1**, **2**, **3**, **8**, and **10**, Anthropology **1**, and **2**, and Education **1**, **2**, and **3** are of this character. By the use of the historical and comparative methods of study and exposition, students in these courses are introduced to a general survey of their respective subjects. While serving as introductory courses for students proposing to specialize in philosophy, psychology, anthropology, or education, these courses are particularly recommended to those students of law, medicine, political science, natural science, or theology who wish to acquire some knowledge of philosophy, psychology, anthropology, and education as part of a liberal education or as supplemental to their own special lines of study. College students wishing to follow these courses are recommended to take Psychology **A** in the sophomore year, Psychology **1** in the junior year, and Philosophy **1** and Education **2** in the senior year.

The remaining courses in each group are intended primarily for advanced students. These courses may be taken only by those who have had the introductory courses, or their equivalent, at some other university. The advanced courses are planned with reference to each other, and a student remaining three years in the Division may pursue courses that cover the entire range of modern philosophy, psychology, anthropology, and education.

Juniors in Columbia College and in Barnard College may elect Education **3**, given at Teachers College, and count the same as part of the work required for the degree of Bachelor of Arts. Seniors may take any of the Education courses

that are open to them, and count the same toward the degree of Bachelor of Arts, subject to the usual restriction that not more than six hours per week of elective work may be taken in any one subject.

A select number of advanced students, usually candidates for university degrees, are admitted to the seminars organized for training in research.

All courses offered by this Division, except Philosophy A, Psychology 7, and Anthropology 3, are open to women on the same terms as to men. Women wishing to enter any of the courses as candidates for a degree or as special students, must register through Barnard College.

All courses except Psychology A and 7, Anthropology 3, the several seminars and research work, are open to auditors on the usual terms.

Courses in Philosophy

1—Historical and critical introduction to philosophy—Weber's *History of Philosophy;* Paulsen's *Introduction to Philosophy*—Lectures, essays, and private reading—3 hours. Professor BUTLER, assisted by Dr. JONES

This course serves as a general introduction to the study of philosophy, and is pre-requisite to Courses 3, 4, and 6.

2—Ethics, introductory course—Lectures, essays, and discussions—2 hours. Professor HYSLOP, assisted by Dr. JONES

This course is pre-requisite to Course 5.

3—The philosophy of Kant and his successors; Fichte, Schelling, Hegel, Herbart, and Schopenhauer—Lectures, essays, and private reading—2 hours. Professor BUTLER, assisted by Dr. JONES

Course 3 is open only to students who have had Course 1 or its equivalent.

4—British philosophy from Locke to Herbert Spencer; history and criticism of the association psychology and the philosophy of evolution—Locke's *Essay on the Human Understanding;* Berkeley's *Principles of Human Knowledge;* Hume's *Treatise of Human Nature;* the writings of Hartley, Brown, the Mills, and Bain; Herbert Spencer's *First Principles*—Lectures, essays, and private reading—2 hours. Professor BUTLER, assisted by Dr. JONES

Given in 1900–1901 and each alternate year thereafter.

Course 4 is open only to students who have had Course 1 or its equivalent.

5—Practical ethics—Lectures, private reading, observation, essays, and discussions—2 hours. Professor HYSLOP

Not given in 1899–1900.

Course 5 is open only to students who have taken Course 2 or its equivalent.

6—Epistemology—Lectures, discussions, and essays—2 hours. Professor HYSLOP

This course will be introduced by a careful study of Plato and Aristotle, and a brief historical examination of the most important doctrines down to modern times. This will be followed by the special study of the later writers including Hobhouse, Lotze, Riehl, Sigwart, Ladd, and Hodgson. The purpose of the course is critical and constructive rather than historical.

Course 6 is open only to students who have taken Course 1 or its equivalent.

8—Principles and problems of æsthetics—Lectures, essays, and discussions—2 hours. Dr. JONES

In this course the problems of æsthetics will be considered in their philosophical, psychological, and sociological aspects. Among the works referred to are those by Hegel, Schopenhauer, Spencer, Allen, Guyau, Santeyana, and Grosse.

9—Applied logic and scientific method—3 hours, second half-year only. Professor HYSLOP, assisted by Dr. JONES

10—Journal Club—Reports and discussions on contemporary literature—1 hour. Dr. JONES

Seminars

Ethical Seminar. One session weekly. Professor HYSLOP

The purpose of the Seminar is training in methods of research in ethics. It is open only to candidates for the degrees of Master of Arts and Doctor of Philosophy. The subject for 1899-1900 will be: *Topics in the Theory of Ethics.*

Philosophical Seminar. Two sessions each month. Professor BUTLER

The purpose of the Seminar is training in methods of research in the historical and comparative study of philosophy. It is open only to candidates for the degrees of Master of Arts and Doctor of Philosophy. The subject for 1899-1900 will be: *Topics in the History of Psychology.*

Courses in Psychology

A—Elements of psychology—James's *Principles of Psychology;* Hyslop's *Syllabus of Psychology*—Lectures, practical exercises, and recitations—3 hours, first half-year. Professor HYSLOP, assisted by Dr. GERMANN

A parallel course is given by Dr. Thorndike at Teachers College.

This course may not be counted for the degrees of Master of Arts and Doctor of Philosophy.

1—Introduction to psychology—Lectures and demonstrations. Professors BUTLER, CATTELL, BOAS, STARR, and HYSLOP, Drs. FARRAND and THORNDIKE, and Mr. STRONG

The object of this course is to give a summary view of the subject matter and methods of modern psychology. The ground covered is as follows:

A. Prolegomena to psychology, including a sketch of the history of psychology. Six lectures. Professor BUTLER
B. Physiological psychology. Eight lectures. Dr. FARRAND
C. Experimental psychology. Eight lectures. Professor CATTELL
D. Genetic psychology. Seven lectures. Dr. THORNDIKE
E. Comparative psychology. Seven lectures. Dr. BOAS
F. Pathological psychology. Three lectures. Dr. STARR
G. General psychology. Eight lectures. Professor HYSLOP
H. Philosophy of mind. Six lectures. Mr. STRONG

2—Experimental psychology, introductory course—Lectures, themes, and laboratory work. 2 hours. Professor CATTELL

3—Experimental physiology—Laboratory work. 2 or 4 hours, counting as a 1- or 2-hour course. Professor CATTELL, assisted by Mr. FRANZ

4—Problems in experimental psychology—Lectures, laboratory work, and reports. 2 hours. Professor CATTELL

5—Research work in experimental psychology. Professor CATTELL, assisted by Mr. FRANZ

10—Experimental psychology, with reference to its applications in education. Mr. FRANZ

11—Genetic psychology, advanced course. Dr. THORNDIKE

6—General psychology, advanced course—Lectures and private reading. 3 hours.

7—Diseases of the mind and nervous system—Lectures and demonstrations. 1 hour. Professor STARR

8—Physiological psychology, general course—Lectures, demonstrations, and laboratory work. 3 hours. Dr. FARRAND

This course is especially recommended to intending students of medicine.

9—Abnormal and pathological psychology — Lectures and discussions. 1 hour. Dr. FARRAND

12—Research work in physiological and abnormal psychology and in ethnology—Consultations. Dr. FARRAND

Courses in Anthropology

1—Anthropology, general introductory course—Lectures, essays, and discussions. 2 hours, first half-year: physical anthropology and linguistics. Professor BOAS. Second half-year: ethnology. Dr. FARRAND

2—The statistical study of variation, introductory course—Lectures, essays, and discussions. 2 hours. Professor BOAS

3—Ethnology—Primitive culture—Lectures, papers, and discussions. 2 hours. Dr. FARRAND

4—Physical anthropology—Lectures and laboratory work. 1 hour. Professor BOAS

5—Physical anthropology—Research work. Daily. Professor BOAS

6—North American languages—Lectures and discussions. 2 hours. Professor BOAS

Courses in Education

The courses in education, except Course 2, are given primarily under the Faculty of Teachers College. All courses in education are open to duly qualified students of the University without distinction of sex.

History and Philosophy of Education

1—History of education—Lectures, essays, and discussions. 2 hours. Two sections. Professor MONROE

A. Open to graduates and to fourth-year students who have had the equivalent of History 1

B. Open to special and departmental students and to regular students who have not had History 1

Required, in the last year of the course, of all undergraduates who are candidates for a diploma.

2—Principles of education—Lectures, essays, required reading, and discussions. 2 hours. Professor BUTLER, assisted by Dr. GERMANN

Required of all fourth-year students who are candidates for a diploma in secondary or elementary teaching.

8 — Secondary education — The historical development of secondary schools in Europe and America; the purpose and means of secondary education; the correlation of studies and the pedagogical problems involved in secondary education — Lectures and discussions based on supplementary reading. 2 hours. Professor RUSSELL

Given in 1900–1901, and in alternate years thereafter. Open as an elective to graduates, qualified seniors, and special students.

SEMINAR **2** — The development of the secondary school in Europe and America. 2 sessions monthly. Professor RUSSELL and Professor MONROE

Open only to graduate students who are qualified to undertake research and investigation.

Journal Club — For the discussion of new books on education and articles in current periodicals. Dr. GERMANN

School Economy and Child Study

6 — School supervision and management — The practical problems of school economy — Lectures, essays, and discussions. 1 session weekly, counting as a 1-hour or a 2-hour course. Superintendent GILBERT

Open as elective to graduates, qualified seniors, and special students.

7 — Comparative study of educational systems — The national systems of Germany, France, and England compared with our own; free and compulsory education; administration and supervision; training of teachers; appointment; salaries and pensions; school curriculums; methods of teaching; relations of elementary, secondary, and higher education — Lectures and supplementary reading. 2 hours. Professor RUSSELL

Given in 1899–1900, and in alternate years thereafter. Open as elective to graduates, qualified seniors, and special students.

9 — Child study — Physical and mental development of the child — Observation, experiments, private reading, and conferences. 2 hours. Dr. THORNDIKE

Open to students who are taking, or have completed Psychology A and Education 3. Required of third-year students who are candidates for the diploma in elementary or kindergarten teaching.

Psychology **11** — Genetic psychology, advanced course. Dr. THORNDIKE

27 — School hygiene — The principles of hygiene applied to the physical and mental conditions of school work — Lectures, experimental study, and discussions. 3 hours second half-year. Dr. THORNDIKE

This course will deal with the hygienic construction of school buildings; the heating, lighting, ventilation, equipment, etc., of classrooms; the hygiene of instruction, fatigue, study, etc.; school diseases; defects of sight, hearing, etc.; and simple tests of physical and mental ability.

Open as elective to qualified students.

SEMINAR **1** — Administration of public education in the United States. 1 session. Professor BUTLER

Open only to graduate students who are qualified to undertake research and investigation.

Theory and Practice of Teaching

3 — Applications of psychology in teaching — Discussions, critical study of texts, and collateral reading. 3 hours one half-year. 3 sections. Mr. REEDER

A. Open to graduates and specially qualified fourth-year students. First half-year

B. Open to students who are candidates for the diploma in domestic art, domestic science, fine arts, or manual training. Second half-year

C. Open to students who are candidates for the diploma in elementary or kindergarten teaching. Second half-year

This course is pre-requisite to Education 4 and all practice in teaching. Required of all undergraduates who are candidates for a diploma. Psychology A or its equivalent is a pre-requisite for this course.

4 — Observation and practice in teaching

A. Observation. Weekly conferences following observation of recitations; also preparation of lesson plans and critical study of elementary school text-books. 2 hours — either half-year may be taken separately. Professor MCMURRY and Mr. REEDER

B. Teaching. Practice in teaching under supervision. Professor MCMURRY, Mr. REEDER, Miss WOHLFARTH, and the heads of departments concerned

Open only to students who have completed Psychology A and Education 3. Practice in teaching is required of all candidates for a diploma.

5 — General method. The ends of education, the means for their attainment, the relative worth of studies, correlation, and interest — Lectures, critical study of texts, and discussions. 2 hours. Professor MCMURRY

This course supplements Education 2 and 3, and may profitably be taken with them. Open as an elective to graduates and qualified students in the last year of the course. Required of fourth-year students who are candidates for the diploma in the kindergarten teaching.

10 — Primary teaching — The general and specific aims, the course of study, correlation, methods of instruction in each subject of the primary school — Observation, discussions, and lectures. 2 hours. Professor MCMURRY

Open as an elective to qualified students.

SEMINAR 3 — The curriculum of the elementary school — The outline of study in each common-school subject will be determined by careful examination of the published curricula of the best schools of the country, by consultation with the heads of departments in the college, and by extensive discussion. 1 session weekly. Professor MCMURRY and Mr. REEDER

Open as an elective to graduate students who are qualified to undertake research and investigation.

26 — Drawing and manual training for the primary grades — Drawing and manual training as expression subjects; correlation with other studies — Conferences, preparation of lessons, observation, and practical work. Professors CHURCHILL, RICHARDS, and WOOLMAN

Required of fourth-year students who are candidates for the diploma in elementary (primary) teaching.

11 — Principles and methods of art teaching; art as a factor in public education — Class work, with lectures, conferences, and observation. 3 hours, counting as a 2-hour course. Professor CHURCHILL and Mrs. CHAMBERS

12 — Methods of teaching biology in elementary and secondary schools — Lectures, laboratory, and field-work. 3 hours, counting as a 2-hour course. Professor LLOYD

13 — Methods of teaching English in secondary schools — Lectures, discussions, reports of observation, and practice teaching. 3 hours, counting as a 2-hour course. Professor BAKER

14 — Methods of teaching English in elementary schools — Lectures, discussions, reports of observation, and practice teaching. 3 hours. Professor BAKER

15 — Methods of teaching French in secondary schools

Not given in 1899–1900.

16a—Methods of teaching geography and geology in secondary schools—Lectures, discussions, and preparation for practice teaching. 3 hours weekly throughout the year, counting as a 2-hour course. Professor DODGE

16b—Methods of teaching geography in elementary schools—Lectures, discussions, and preparation for practice teaching. 3 hours weekly throughout the year, counting as a 2-hour course. Geikie, *The Teaching of Geography*. Professor DODGE and Miss LUDDINGTON

Open as an elective to qualified students.

17—Methods of teaching German in secondary schools—Essays, discussions, reports of observation, and practice teaching. 3 hours weekly during the second half-year, counting, with German 19, as a 2-hour course. Mr. BAGSTER-COLLINS

18—Methods of teaching Greek in secondary schools—Essays, discussions, reports of observation, and practice teaching. 3 hours weekly during the second half-year, counting, with Methods of Classical Instruction, as a 2-hour course. Miss COCHRAN

19—Methods of teaching history in secondary schools—Lectures, essays, discussions, reports of observation, and practice teaching. 3 hours weekly throughout the year, counting as a 2-hour course. Professor CASTLE

20—Methods of teaching history in elementary schools—Lectures, conferences, reference-work, observation, and practice teaching. 2 hours weekly during the first half-year. Professor CASTLE

21—Methods of teaching Latin in secondary schools—Essays, discussions, reports of observation, and practice teaching. 3 hours weekly during the second half-year, counting with Methods of Classical Instruction, as a 2-hour course. Mr. C. M. BAKER

22a—Principles and methods of teaching manual training—Lectures, conferences, and reports on reading. 3 hours weekly throughout the year, counting as a 2-hour course. Professor RICHARDS

22b—Organization and supervision of manual training—Lectures, conferences, reports on reading, and observation. 2 hours weekly throughout the year. Professor RICHARDS

23—Methods of teaching mathematics in secondary schools—Lectures, discussions, and practical work. 3 hours, counting as a 2-hour course. Professor BIKLÉ

24—Methods of teaching mathematics in elementary schools—Lectures, discussions, and practical work. 3 hours, second half-year. Professor BIKLÉ

25—Methods of teaching physical science in elementary and secondary schools—Chemistry, first half-year; physics, second half-year. Lectures, discussions, and practical work. 3 hours, counting as a 2-hour course. Professor WOODHULL

NOTE.—Education 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, and 25 are required of candidates for the Teachers College diploma in the several subjects to which they relate. A total of nine hours' credit for courses in subject-matter, selected with the approval of the Dean of Teachers College, must also be secured in each subject offered for the diploma in secondary teaching.

Equipment

The equipment of the Division is very complete and constantly being increased. It includes library facilities, laboratories of experimental and physiological psychology, a school of observation and practice, and the beginnings of an educational museum.

Library Facilities—The library facilities of Columbia University and of the city of New York, for students of Philosophy, Psychology, Anthropology, and Education, are unusually good. The University Library, open daily (except Sunday) for fifteen hours, contains more than 285,000 bound volumes and an equal number of pamphlets, and is being added to at the rate of more than 20,000 volumes annually. Any book needed by an advanced student can usually be bought at once. The collection of books on the history of philosophy is very large, that on Kant and his philosophy being especially complete. Over 800 periodicals are regularly received at the University library, and among them will be found every journal of importance, American or foreign, dealing with philosophy, physiology, ethics, or education. Duplicates of the more important books and journals are placed in the Psychological Laboratory and may be used by students at their convenience. Students of Psychology will also find much of value in the Library of the Academy of Medicine, 15 West 43d Street, which is open to students free of charge. Students of Anthropology may avail themselves of the extensive collections of the American Museum of Natural History. The Astor and Lenox Libraries are also available for students, when introduced by one of the instructors, on especially favorable terms.

Students of Education have also at their disposal the Bryson Library at Teachers College. This collection now numbers more than 10,000 volumes, and is constantly being enlarged. The main purpose of the Library is to afford to special students of Education opportunities for study and research. The

Library, therefore, consists chiefly of works on Education in English, French, and German, including books on philosophy, psychology, anthropology, history of education, school organization, and methods of teaching. In addition to these professional works the Library also contains a collection of books on history, literature, biography, geography, travels, art, science, and technology, adapted to the needs of pupils in elementary and secondary schools, with which students of Education and teachers should be familiar.

THE PSYCHOLOGICAL LABORATORY—The new laboratory occupies the eastern half of the second floor of Schermerhorn Hall. This building has been erected with special reference to study and research in the natural sciences, at a cost of over $400,000, and is complete in every respect. The part occupied by the psychological laboratory was planned for this purpose after a careful study of psychological, physical, and physiological laboratories. It includes a large lecture-room fitted up for lectures, demonstrations, and experimental work by students in the general courses, a seminar-room, with a department library, and eight other rooms. These include a room for work in anthropology and physiological psychology, a room for a workshop and preparations, an apparatus cabinet, and five research laboratories. Two of these are dark rooms, especially constructed to exclude sound as well as light, 20 feet high and well ventilated. The laboratory has light from the north and south, is supplied in all rooms with electric current of both high and low potential, and is in all respects equipped both for instruction and research.

The collection of apparatus has been gradually secured at a cost of over $6000. It includes: (1) Outfit for making and repairing apparatus, measuring instruments, electric motors, etc. (2) The outfit of an anthropometric laboratory with which freshmen in the College and others are annually tested. (3) The apparatus, preparations, charts, etc., needed for complete courses in experimental and physiological psychology; and (4) The apparatus that has been used or is being used in special researches. A large part of the apparatus has been made especially for the laboratory. It includes two chronographs, one of high speed for measuring very short time and one of low speed for continuous records, two electric chronoscopes with special improvements, a wheel chronoscope, a gravity chronoscope, and a pendulum chronoscope made for special researches, apparatus for studying the time, extent, and force of movement and the dynamogenic effects of sensations and emotions, instruments for the study of the sense of time and the perception of space, an Ellis harmonium and Koenig acoustical apparatus. a spectro-photometer, special color-mixers, Auzoux's models, and many other instruments, models, preparations, charts, etc., used in the courses of instruction and for research work. The outfit for the courses of instruction is now in large measure secured and the annual appropriations can be used chiefly for apparatus needed in special researches. This can be done to special advantage as a skilled instrument-maker is employed continuously in the workshop of the laboratory.

The courses in the zoölogical sciences are given in the same building, and the building for instruction in physics is adjoining. The library and the rooms occupied by the department of Philosophy are near by.

The collections and apparatus in the departments of Zoölogy, Physics, and

Physiology, as also of the American Museum of Natural History, are unusually complete and may be used by students of Psychology and Anthropology. There is a thorough equipment of ethnological and anthropological charts and maps, with skulls, casts, and masks of lower races, and material and instruments for work in anthropometry.

The anthropological section of the University Library is being rapidly enlarged, the journals in the subject are on file in the reading-room, and special efforts have been made to obtain back numbers of all the leading periodicals, the files of which are now practically complete.

HORACE MANN SCHOOL—For students of Education there is afforded an exceptional opportunity for observation and practice in teaching. This is given in the school of observation and practice known as the Horace Mann School, which is maintained by Teachers College for this purpose. In this school every phase of school work, including the high school as well as the kindergarten and the elementary school, is to be found in operation. In all these grades there are being worked out, from year to year, in the light of educational theory and of practical experience, the typical educational problems of the day, and the students in Education are made sharers with the Faculty of Teachers College both in the processes and in the results of these investigations. Opportunities for practice in teaching and supervision are afforded to qualified students.

Physics

OGDEN N. ROOD, A.M. *Professor*
WILLIAM HALLOCK, Ph.D. *Adjunct Professor*
REGINALD GORDON, A.B. *Instructor*
HERSCHEL C. PARKER, Ph.B. *Tutor*
CHARLES C. TROWBRIDGE, B.S. *Tutor*
FRANK L. TUFTS, Ph.D. *Tutor*
WILLIAM S. DAY, Ph.D. *Tutor*
THEODORE G. WHITE, Ph.B., A.M. *Assistant*
WILLIAM C. ANDREWS, E.E. *Assistant*
WILLIAM B. JOHNSTONE, C.E. *Assistant*
HOMER M. DERR, A.B. *Assistant*
WILLIAM W. COMSTOCK, A.B. *Assistant*

Courses

1—General physics. Light and heat (first half-year). Sound and electricity (second half-year). Lectures and recitations, 3 hours; laboratory, 2 hours. Professor ROOD and Mr. GORDON

Laboratory work not required of first-year students in courses under the Faculty of Applied Science, with the exception of those in the course of Mechanical Engineering. Open to students in the College.

2—Magnetism and electricity (first half-year). Sound (second half-year). 2 hours lectures ; 2 or 6 hours laboratory work. Text-books : Atkinson's Ganot, and Stewart and Gee's *Physics*. Professor ROOD

Open to candidates for the degree of A.M. whose minor subject is Physics.

3—Units and measurements (first half-year). Lectures on the absolute system of mechanical and electrical units ; electrical measurements ; the derivation and use of the Watt, Joule, Ampère, Volt, and Ohm.

Exact electrical measurements (second half-year). Lectures on the Farad, Coulomb, and units of electric and magnetic induction.

Electrical and magnetic measurements in the laboratory. 2 hours lectures ; 2 to 8 hours laboratory. Text-books : Everett's *C. G. S. System of Units*, Glazebrook and Shaw's *Physics*, Kohlrausch's *Physical Measurements*, Wiedemann and Eberts' *Physics*, and A. Witz's *Physics*. Professor HALLOCK

Required of second-year students in the Electrical Engineering course. Second-year students in all courses under the Faculty of Applied Science, except that of Architecture, are required to attend the lectures of the first half-year, and to take two hours of laboratory work during the whole year. Open to candidates for the degree of A.M. whose minor subject is Physics. Pre-requisite : Course 1 or 3 with two hours laboratory work.

4—Light (first half-year). Lectures on the velocity, reflection, refraction, and dispersion of light. Achromatism, optical instruments, the eye, and Young's theory of color. Physical measurements in the laboratory.

Heat (second half-year). Lectures on the expansion of solids, liquids, and gases ; on conduction, specific heat, tension of vapors, and radiant heat. Physical measurements in the laboratory. 3 hours lectures, 2 or 4 hours laboratory work. Text-books : Stewart and Gee, and Glazebrook and Shaw's *Physics*. Professor ROOD

Open to candidates for the degree of A.M. whose minor subject is Physics. Pre-requisite or parallel : Course 2.

5—Modes of designing and constructing optical apparatus (first half-year). 1 hour. Professor HALLOCK

Open to second-year students under the Faculty of Applied Science, and to university students. Pre-requisite or parallel : Course 2, 3, or 4.

6—Elementary meteorology (first half-year). The steam-engine (second half-year). 1 hour. Mr. GORDON

Pre-requisite or parallel : Course 2 or 4.

7—Electrical manipulation (first half-year). 1 hour. Theoretical comparison of electrical methods (second half-year). 2 hours. Mr. PARKER

Open to candidates for the degree of Electrical Engineer, and to university students. Pre-requisite or parallel : Course 3 or 4.

38—Experimental methods of studying atmospheric electricity (second half-year). 1 hour. Dr. TUFTS

Pre-requisite or parallel : Course 6.

39—Modes of constructing and designing electrical apparatus (second half-year). 1 hour. Mr. ANDREWS

Open to candidates for the degree of Electrical Engineer, and to university students. Pre-requisite or parallel : Course 2 or 3.

8—Undulatory theory of light (second half-year). 2 hours. Professor HALLOCK

Open to university students. Pre-requisite or parallel: Course 4 of seven hours.

31—General physics (shorter course for students in medicine). 3 hours lectures and 3 hours laboratory work, for a half-year. Professor HALLOCK

This course is delivered twice every year, and is required of candidates for the degree of M.D. in their first year.

Laboratory Courses

9—Electromotive force of standard and constant cells
41—Comparison of electrical standards of resistance
32—Absorption of sound by various materials
12—Colorimetry, and absorption spectra
13—Photometry

Open, with five hours laboratory work, to candidates for the degree of A.M., or with eight hours laboratory work, to candidates for the degree of Ph.D. whose minor subject is Physics. Pre-requisite: Course 2 of eight hours.

14—Calibration of Wheatstone bridges
33—Factors of capillarity
16—Determination of index of refraction by special methods
35—Study of the variations of the magnetic field
18—Viscosity of solids

Open, with five hours laboratory work, to seniors in the College and to candidates for the degree of A.M., or with eight hours laboratory work to canidates for the degree of Ph.D., whose minor subject is Physics. Pre-requisite: Courses 2 and 4.

34—Determinations of permeability and hysteresis of iron
20—Advanced course in spectrometry
21—Ballistic-galvanometer work, inductance
22—Calorimetry
23—Radiant heat
24—Interference of light
25—polarized light
26—Acoustic determinations
36—Precise determinations with the potentiometer
28—Measurement of low resistance
29—Electrical insulation
30—The use of the microscope
40—Absolute measurements of current and electromotive force

37—Spectral photography
Professors ROOD and HALLOCK, Mr. GORDON, and Mr. PARKER

Open, with ten hours laboratory work, to candidates for the degree of Ph.D., in their first year, whose major subject is Physics. Pre-requisite: Courses 2 and 4 of eight and seven hours.

Original research, conducted under the direction of Professors Rood and Hallock, is open to properly qualified persons, including candidates for the degree of Ph.D., in their last year, whose major subject is Physics.

Equipment

The laboratories and lecture-rooms of the department of Physics occupy four floors of Fayerweather on the eastern side of the university grounds. The building is supplied with all ordinary conveniences, including electricity for power and light, compressed air, and steam. There is a vertical shaft 95 feet high, with gas, electric, and water outlets at every ten feet. In the sub-basement a constant-temperature room is placed twelve feet below the surface of the ground. The meteorological instruments presented to the University by President Low are set up with the recording portions in the small library on the second floor, and are connected by an electric cable with the vanes, anemometer, and rain-gauge, which, with allied pieces of apparatus, are placed upon an observation platform located on the roof of the building, There are two lecture-rooms, a library, and apparatus-room, and a small laboratory on the first floor, while the remaining three floors devoted to the department are occupied by laboratories of different kinds.

The general elementary laboratory includes in its equipment: three linear and three circular dividing engines of different designs; a Geneva Society comparator, and dividing engine; a Grunow cathetometer, spherometers, optical levers, calipers, and micrometers of many kinds, eight balances with weights. Specific-gravity apparatus, hydrometers, areometers, Becker and Jolly balances; standard mercurial barometers, aneroid and Mariott barometers, Kater's and Borda's pendulums, and apparatus for studying elasticity are provided; also monochords, Kundt's dust-figure apparatus, and sets of organ pipes and tuning-forks for the study of sound; thermometers and apparatus for their calibration-zero and boiling points, are supplied; also there is apparatus for determination of co-efficients of expansion, for latent and specific heat, and for calorimetry.

The optical rooms are furnished with eight spectrometers of different designs, seven spectroscopes, small telescopes, opera-glasses, microscopes, sets of lenses, prisms, and gratings, goniometers, a sextant, optical benches, photometers, saccharimeters, total reflectometers, and apparatus for colorimetry, polarized light, and spectroscopy.

In the rooms devoted to electricity are eleven galvanometers of various patterns, high and low resistance, ballistic and dampened; electrometers, magnetometers, rheostats and bridges of all types; condensers, batteries, keys, arc and incandescent lamps, ammeters and volt meters, and four standard ohms.

The workshop is furnished with a lathe, planer, grinding head, vises, carpenters' and machinists' benches, and tools for work in metal, wood, and glass.

Advanced students are taught and encouraged to repair, alter, and construct apparatus needed for their special work.

Physiological Chemistry

RUSSELL H. CHITTENDEN, Ph.D. *Director and Lecturer*
WILLIAM J. GIES, M.S., Ph.D. *Instructor*
ALFRED NEWTON RICHARDS, M.A. *Assistant*
WILLIAM DICK CUTTER, A.B. *Assistant*

Courses

1—Two similar courses in physiological chemistry are given during the year: one course to half the class during the first half-year, the other course to the remaining half of the class during the second half-year.

It is the aim of the course to have the lectures, conferences, and laboratory exercises so conducted that the student will be enabled to carry out experiments in the laboratory on the various topics under consideration in direct connection with the didactic instruction.

The course opens with a study of proteid substances with special reference to their chemical nature, relationships, reactions, and the like. The general nature of cell protoplasm, together with the cell nucleus and the contained nucleins, is then considered from a chemico-physiological standpoint, after which the various forms of epithelial and connective tissues are studied. Next in order come the muscular and nervous tissues, the several characteristic constituents being separated and their chemical and physiological properties noted. Attention is then directed to the chemical processes of salivary, gastric, pancreatic, and intestinal digestion, special stress being laid upon the various forms of enzyme action here represented, the conditions under which such action takes place being carefully studied, and the resultant products separated and compared both from a chemical and physiological standpoint.

Other topics to be taken up are the liver, glycogen, and bile, with special reference to their physiological properties, blood, lymph, milk, and urine. With regard to the last secretion special emphasis is laid upon its chemical composition both in health and disease, and due regard is had to the teaching of proper methods for the detection of abnormal constituents. Further, quantitative methods for the determination of total nitrogen of both urine and fæces are carefully considered in their bearing on the study of nutrition.

It is the aim of the course to present to the student, as thoroughly as the time will allow, the chemical side of physiology and mainly from a scientific standpoint, without, however, ignoring those practical questions which have special significance for the student of medicine. It is believed, however, that too much stress cannot be laid upon the purely chemico-physiological problems of digestion, secretion, and nutrition in general, and that such a study, though seemingly dealing with many questions not directly connected with clinical problems, constitutes a very essential part of that training necessary for a complete understanding of the normal processes of the body. 1 hour lecture, Professor CHITTENDEN. 1 hour conference and recitation, 6 hours laboratory, Dr. GIES and Assistants

Required of all candidates for the degree of M.D. in the second year. Open as an elective to qualified seniors who have had the requisite amount of chemistry, physiology, and general biology, as well as to properly qualified candidates for the degree of A.M. or of Ph.D.

Research

The laboratory is open to advanced workers and for original research in physiological chemistry under the direction of its officers.

Professor CHITTENDEN, Dr. GIES, and Assistants

Equipment

The department of Physiological Chemistry is located at the Medical School and possesses a well-equipped laboratory capable of accommodating 72 workers at one time. In addition there is a smaller laboratory for special work, together with private rooms for the instructors. The laboratory is well supplied with all necessary chemical apparatus, balances, steam-baths, constant level water-baths, thermostats for artificial digestions, microscopes for micro-chemical work, spectroscopes, polariscope, centrifugal apparatus, and the like ; in fact, the laboratory is well equipped with all needful apparatus for routine and research work in physiological chemistry.

Physiology

JOHN GREEN CURTIS, M.D.....*Professor*
FREDERIC SCHILLER LEE, Ph.D.....*Adjunct Professor and Demonstrator*
COLIN CAMPBELL STEWART, Ph.D.....*Tutor*

Courses

1—General physiology—Structure of protoplasm ; physiology of the cell ; physiological division of labor and evolution of special functions ; irritability ; contractility ; phototaxis ; geotaxis ; chemotaxis ; galvanotaxis ; general principles of secretion ; the nerve cell ; the nerve impulse ; reflex action ; the germ cells. Lectures, 1 hour. Professor LEE

Open to qualified candidates for the degree of A.M., M.D., or Ph.D.

2—Laboratory course in general physiology. 5 hours. Professor LEE and Dr. STEWART

Open, in conjunction with Course 1, to qualified candidates for the degree of A.M., M.D. or Ph.D.

3—The physiology of man as related to that of other mammals and of lower vertebrates—This course treats in alternate years of (*a*) the physiology of nutrition and (*b*) the physiology of the muscular and nervous systems and the special senses. Certain introductory lectures are repeated annually. Lectures and demonstrations, 4 hours. Professors CURTIS and LEE and Dr. STEWART

Required, in the first and second years, of candidates for the degree of M.D.
Open to qualified candidates for the degree of A.M. or of Ph.D.

4—Laboratory course in special physiology. Professors CURTIS and LEE and Dr. STEWART

Open to qualified candidates for the degree of A.M., M.D., or Ph.D.

Research

The laboratory is open for research, under the direction of its officers, to advanced workers.

Fellowships

For the Alumni Association Fellowships open to persons desiring to do special work in the department of physiology, see page 30.

For the University Fellowships, also open as above, see page 20.

Marine Laboratory

An investigator's room at the Marine Biological Laboratory at Wood's Holl, Mass., has been provided by the University for the use of the department of Physiology. This renders possible, during the summer, researches upon the physiology of the marine fauna.

Equipment

The department of Physiology possesses :

(1) A laboratory, for research and the preparing of demonstrations, covering 1700 square feet and lighted on three sides.

(2) A small laboratory for histological research with special reference to physiological problems.

(3) Two rooms for optical or psychological work or for photography, communicating with the main research laboratory and with one another. One of these has a free southerly exposure for the heliostat.

(4) Two private laboratories for the professors of the department.

(5) A laboratory for practical instruction.

(6) A room for lectures and demonstrations to limited classes.

(7) Easy access to a large lecture-room specially fitted for experimental teaching.

(8) The Swift Physiological Cabinet, for the accommodation of a specially endowed and very full collection of apparatus of precision, mainly for research.

The physiological journals in English, German, and French are accessible at the laboratory to advanced students ; also the most important monographs and other books both modern and ancient.

A skilled mechanic is employed to devote his entire working time at the laboratory to the care and improvement of the plant, including the making, altering, and repairing of special apparatus. He also assists in the scientific manipulations. The following machines and apparatus deserve mention :

An upright seven-horse-power steam-engine, mounted against a pier upon an iron bracket to avoid floor vibrations, and working a shaft which runs the whole length of the main research laboratory ; electric motors and shafting in the laboratory for practical instruction and in the demonstration room ; two steam lathes ; apparatus worked by motors for artificial respiration ; Ludwig's "Schlagwähler" ; kymograph for a long roll of paper, and high-speed drum kymograph, both worked by steam ; high-speed drum kymograph, worked by weights ; two drum kymographs of the spring pattern ; eight high-speed drum kymographs, worked by the electric motor ; Hürthle's kymograph for a very long band of smoked paper ; two single drums, to be revolved by hand ; four "Basel stands" for the fine adjustment of recording levers ; Zeiss scales and other instruments for reading and measuring curves, including a planimeter ; electro-magnetic chronographs and control hammer ; seconds pendulum ; interrupter clock ; Jaquet's recording chronometer ; automatic dry-contact tuning-forks ; short-beam quantitative balance ; copper voltameter ; milliampère- and ampère-meters ; Wiedemann-du Bois galvanometer, with coils of high and low resistance, Hauy's bar, telescope, and milk-glass scale ; capillary electrometers ; ohmmeter, for resistances of from 0.001 to 200.000 ohms ; Edelmann's fara-

dimeter ; thirteen horizontal and two upright du Bois induction coils ; a complete collection of du Bois-Reymond's other apparatus ; moist chambers and muscle-levers ; upright rheochord ; mechanical tetanomotor ; differential rheotome ; Marey's tambours, cardiographs, stethograph, and explorer of the human muscles ; sphygmographs ; plethysmograph ; oncometers ; three single and one double recording mercurial manometers ; spring manometer of Fick ; manometers of Hürthle ; tonographs of von Frey ; "Stromuhr" ; frog-heart apparatus ; thermo-electric apparatus ; constant-pressure injection apparatus : two mercurial gas pumps ; large spectroscope ; direct-vision spectroscope ; Ladd spectroscope ; four micro-spectroscopes ; heliostat ; sixteen microscopes and accessories ; Zeiss's and Westien's dissecting microscopes ; Thoma's microtome ; Leitz's large projection apparatus ; Anschütz's "Schnellseher" ; numerous instruments and models for the investigation and demonstration of the physiology of sight and hearing ; casts and models of the brain ; Dalton's apparatus for making sections of the human brain.

Political Economy and Finance

(See page 72)

Political Philosophy

(See page 111)

Portuguese and Rumanian

(See page 173)

Practice of Medicine

Francis Delafield, M.D., LL.D. *Professor*
Walter B. James, M.D. *Clinical Lecturer and Instructor in Hospital Diagnosis*
Frank W. Jackson, M.D. *Chief of Clinic and Instructor in Hospital Diagnosis*
George Roe Lockwood, M.D. *Clinical Assistant and Instructor in Physical Diagnosis*
William K. Draper, M.D. *Clinical Assistant and Instructor in Physical Diagnosis*
Van Horne Norrie, M.D. *Clinical Assistant and Instructor in Physical Diagnosis*
John W. Brannan, M.D. *Instructor in Hospital Diagnosis*
George Montague Swift, M.D. *Instructor in Medicine*
Arthur M. Shrady, M.D *Clinical Assistant*
Alfred E. Sumner, M.D. *Clinical Assistant*
Arthur R. Braunlich, M.D. *Clinical Assistant*
William Armstrong, M.D. *Clinical Assistant*
E. L. Dow, M.D. *Clinical Assistant*

Courses

1—The practice of medicine. Didactic lectures, 2 hours for the session. Professor DELAFIELD

Required, in the third and fourth years, of candidates for the degree of M.D.

2—Clinical lectures on general medicine at the Vanderbilt Clinic. 1 hour. Th. at 3 P.M. Professor DELAFIELD

Required, in the third and fourth years, of candidates for the degree of M.D.

3—Physical diagnosis. Practical instruction; 30 lessons for each student. Drs. LOCKWOOD, DRAPER, and NORRIE

Required, in the third year, of candidates for the degree of M.D.

4—Hospital diagnosis. Practical instruction; 20 lessons for each student. Drs. JACKSON, JAMES, and BRANNAN

Required, in the fourth year, of candidates for the degree of M.D.

5—Hospital clinics in general medicine. Roosevelt Hospital. Monday at 4 P.M., throughout the academic year. Professors DELAFIELD and PEABODY

New York Hospital. Saturdays at 9.30 A.M., and Mondays at 3 P.M. Professors DRAPER and PEABODY. (See "Medica and Therapeutics.")

Presbyterian Hospital. Tuesdays at 3 P.M.

Attendance at hospital clinics is optional, in the third and fourth years, for candidates for the degree of M.D.

Provençal

(See page 172)

Psychology

(See page 152)

Public Law and Jurisprudence

(See page 116)

Rhetoric and English Composition

(See page 97)

Romance Languages and Literatures

ADOLPHE COHN, LL.B., A.M.....*Professor*
HENRY ALFRED TODD, Ph.D.....*Professor of Romance Philology*
CARLO LEONARDO, SPERANZA, LL.B., A.M.....*Adjunct Professor*
* BENJAMIN DURYEA WOODWARD, Ph.D.....*Instructor*
LOUIS AUGUSTE LOISEAUX, S.B.....*Tutor*
* CURTIS HIDDEN PAGE, Ph.D.....*Tutor*
HENRY BARGY, A.M.....*Lecturer*
DANIEL JORDAN, S.B., P.B.....*Lecturer*
JOHN DRISCOLL FITZ-GERALD, A.B.....*Assistant*
WILLIAM A. NITZE, Ph.D.....*Lecturer*

* Absent on leave.

The department of the Romance Languages and Literatures has charge of all the courses of instruction and research throughout the University, dealing with the various languages that trace their origin to the speech of ancient Rome. To the chief of these languages, the French, Italian, and Spanish, a foremost place is naturally assigned in the work of the department ; but special attention is also given, in the more advanced courses, to the remaining members of the family, such as Old and Modern Provençal, Catalan, Portuguese, Rhæto-Romance, and Rumanian, several of which are possessed of noteworthy literary and philological interest.

The department offers : (1) to students in Columbia College, practical instruction in French, Italian, and Spanish, courses in French, Italian, and Spanish literature, and introductory instruction in Romance philology ; (2) to students in the School of Philosophy, advanced instruction in literature and in Romance philology, courses in the languages unprovided for in Columbia College, and also instruction of a pedagogical character ; (3) to university students at large, and also to auditors, an opportunity to follow special courses ; while advanced students in particular may receive the preparation necessary to meet the requirements in French made of every candidate for the degree of Ph.D. One of the aims of the department is to offer at least one course in each of the languages of the Romance group. Although no course in philology proper is offered to members of the lower classes in the College, it may be stated that from the outset care is taken to suggest the significance of the historical development of the language taught, so as to furnish a solid foundation for grammatical knowledge, and to awaken in some portion of the students a taste for philological research.

The courses at present offered are grouped under the following headings : French, Provençal, Italian, Spanish, Portuguese, Rumanian, Romance Philology.

Courses 9 and 10, under French, are given by Professor BRANDER MATTHEWS of the department of Literature.

Courses in French

C—Elementary course for university students.

Books : Chardenal, *Complete French Course ;* Super, *French Reader ;* Labiche et Martin, *Le Voyage de M. Perrichon ;* Halévy, *L'Abbé Constantin ;* Sandeau, *Mademoiselle de la Seiglière ;* About, *La Mère de la Marquise ;* also, if time serve, Sand, *La Marc au diable.* 3 hours, first half-year, 2 hours, second half-year. Dr. NITZE

Intended for *advanced students* from any department of the University who have omitted to take French in the earlier part of their course. It is expected that work can be pushed forward fast enough to enable them to join Course 1 at the beginning of the second half-year. No examination will be conducted in this course. Students preparing for the entrance examination in French will not be admitted.

A—Elementary course for freshmen.

Books : Chardenal, *Complete French Course ;* Grandgent, *French Composition ;* Super, *French Reader ;* Daudet, *Choix de Contes ;* Halévy, *L'Abbé Constantin ;* Alexandre Dumas, *La Tulipe noire ;* Mérimée, *Colomba ;* Labiche et Martin, *Le Voyage de M. Perrichon.*

Outside reading, Foncin, *Le Pays de France*, or Rambaud, *Petite Histoire de la civilisation française*.

3 hours. Mr. JORDAN and Dr. NITZE

Prescribed for freshmen who entered the College without presenting French.

B—Elementary course for freshmen. The work is intended for freshmen who wish to take Course 2 in their sophomore year and is the equivalent of Courses A and 1 combined. It is accepted as a substitute for Course A.

Books: Chardenal, *Complete French Course;* Edgren, *French Grammar;* Grandgent, *French Composition;* Daudet, *Choix de Contes;* Halévy, *L'Abbé Constantin;* George Sand, *La Mare au diable;* Mérimée, *Colomba;* About, *Les Mariages de Paris;* Labiche et Martin, *Le Voyage de M. Perrichon;* Sandeau, *Mademoiselle de la Seiglière;* Augier et Sandeau, *Le Gendre de M. Poirier;* Molière, *L'Avare*, *Le Bourgeois gentilhomme.*

5 hours. Mr. LOISEAUX and Dr. NITZE

1—Grammar, reading, composition.

Books: Edgren, *French Grammar;* Grandgent, *French Composition;* George Sand, *La Mare au diable;* Mérimée, *Colomba;* Fontaine, *Les Historiens français du XIX e siècle;* About, *Les Mariages de Paris;* Lesage, *Gil Blas;* Labiche et Martin, *Le Voyage de M. Perrichon;* Sandeau, *Mademoiselle de la Seiglière;* Molière, *L'Avare*, *Le Bourgeois gentilhomme.*

Outside reading: GEORGE SAND, *Nanon.*

3 hours. Mr. JORDAN, Mr. FITZ-GERALD, and Dr. NITZE

Open to freshmen and sophomores who have passed the entrance examination in French.

2—General introduction to the study of French literature. Composition.

Books: Corneille, *Horace;* Racine, *Phèdre;* Molière, *Le Misanthrope*, *Les Femmes Savantes;* La Fontaine, *Fables choisies;* Mme. de Sévigné, *Choix de lettres;* Bossuet, *Oraisons funèbres;* Marivaux, *Le Legs;* Voltaire, *Prose* (extracts, edited by Cohn and Woodward); Canfield, *French Lyrics;* Victor Hugo, *Hernani*, *Ruy Blas;* Alfred de Musset, *Selections* (ed. Kuhns); Pailleron, *Le Monde où l'on s'ennuie;* Sainte-Beuve, *Extraits des Causeries du lundi;* Gazier, *Petite Histoire de la littérature française.*

Outside reading: first half-year, Voltaire, *Le Siècle de Louis XIV;* second half-year, one of the following, to be selected by the student: Mme. de Staël, *Corinne;* Victor Hugo, *Quatre-vingt-treize;* A. de Vigny, *Cinq-Mars.*

3 hours. Mr. LOISEAUX and Mr. JORDAN

Open to students, not seniors, who have taken Courses B or 1, or their equivalent.

3—French rhetoric.

Books: Larive et Fleury, *Troisième année de grammaire;* La Fontaine, *Fables;* Leune, *Difficult Modern French;* Daudet, *Contes;* Paul Bourget, *Extraits choisis* (ed. Van Daell); Fontaine, *Les Historiens français du dix-neuvième siècle;* Canfield, *French Lyrics.*

Outside reading: Reinach, *L'Éloquence française depuis la Révolution jusqu'à nos jours;* Effinger, *Extraits de Sainte-Beuve.*

3 hours. Mr. LOISEAUX

Open to students who have taken Course 2 or its equivalent.

4—History of French literature in the seventeenth century.

Books: Descartes, *Discours de la méthode;* Pascal, *Les Provinciales* (lettres 1, 4, 13, edition Brunetière, Paris, Hachette); Corneille, *Théâtre choisi;* Molière, *Œuvres complètes;* Racine, *Œuvres complètes;* Boileau, *Art poétique;* Bossuet, *Oraisons funèbres;* La Rochefoucauld, *Maximes;* La Bruyère, *Les Caractères;* Sévigné, *Choix de Lettres;* Lanson, *Histoire de la littérature française.*

Rambaud's *Histoire de la civilisation française*, and Brunetière, *Manuel de l'histoire de la littérature française*, are strongly recommended as collateral reading.

3 hours. Professor COHN and Mr. BARGY

Open to students who have taken Course 2 or its equivalent.

The following courses, with the exception of Course 12, are open only to students who have taken at least Course 4, or who can offer a satisfactory equivalent for the work therein described.

5—History of French literature in the eighteenth century, especially Voltaire.

Books: Condorcet, *Vie de Voltaire;* Lanson, *Histoire de la littérature française;* Morley, *Voltaire;* Voltaire, *Théâtre choisi* (including *Zaïre*, *Mérope*, *Brutus*, *Mahomet*, *Tancrède*), *Zadig*, *Traité de la tolérance.*

In addition to the above a good deal will have to be read in Voltaire's complete works, especially from the *Lettres philosophiques*, the *Dictionnaire philosophique*, and the *Correspondance.*

Rambaud's *Histoire de la civilisation française* and Brunetière's *Manuel de l'histoire de la littérature française* are strongly recommended as collateral reading.

Students who have already taken Course 6 will be excused from attending the lectures which do not deal especially with Voltaire; for such students the course will count only as two hours.

3 hours. Professor COHN

6—History of French literature in the eighteenth century, especially Montesquieu, Rousseau, the Encyclopedists.

3 hours. Professor COHN

Not given in 1899–1900. Will be given in 1900–1901.

7—History of French poetry in the first half of the nineteenth century.

2 hours. Mr. BARGY

Not given in 1899–1900. Will be given in 1900–1901.

8—History of French poetry in the second half of the nineteenth century.

Books: Gautier, *Emaux et Camées;* Vigny, *Les Destinées;* Victor Hugo, *La Légende des siècles* (selections); Leconte de Lisle, *Poèmes barbares* and selections from the *Poèmes antiques* and *Derniers Poèmes* (complete works, four volumes, Lemerre); Sully-Prudhomme, *Poésies 1866–1872*, one volume, and extracts from the other collections (five volumes in all, Lemerre); Coppée, selections; Banville, *Petit Traité de poésie française*, and selections from his *Poésies complètes* (three volumes, Charpentier); Hérédia, *Les Trophées;* Verlaine, *Choix de poésies* (one volume, Charpentier); Pellissier, *Le Mouvement*

littéraire au XIXe siècle (Paris, Hachette); Brunetière, *L'Evolution de la poésie lyrique en France au XIXe siècle;* Lanson, *Histoire de la littérature française.*

2 hours. Mr. BARGY

9—The French dramatists of the nineteenth century.

2 hours. First half-year. Professor BRANDER MATTHEWS

Not given in 1899-1900.
Identical with first half of Literature 4.

10—Molière and his influence on modern comedy.

3 hours. First half-year. Professor BRANDER MATTHEWS

Identical with Literature 5.

11—History of literary criticism in France, especially Sainte-Beuve and Brunetière.

No book is especially prescribed for this course, but every student will be expected to make constant use of the resources of the University Library. Special subjects will be assigned to him, upon which he will have to report before the class.

2 hours. Mr. BARGY

12—History of the French language.

Book: Darmesteter, *Cours de grammaire historique.*

3 hours. First term. Professor TODD

Open to students who have taken Course 2.

13—Old French. Reading of selected extracts.

Books: Gaston Paris and A. Jeanroy, *Extraits des chroniqueurs français* (third edition); Gaston Paris, *Extraits de la Chanson de Roland* (fourth edition); Bartsch and Horning, *La langue et la littérature françaises;* Gaston Paris, *La littérature française au moyen âge.*

2 hours. First half-year only. Dr. NITZE

14—The French chroniclers of the Middle Ages. Old French. Reading of complete texts.

Books: *Aucassin et Nicolette* (H. Suchier's fourth edition); *Les Lais de Marie de France* (Warnke's edition); Petit de Julleville, *Chroniqueurs français du moyen âge;* Gaston Paris, *La Littérature francaise au moyen âge.*

2 hours. Second half-year only. Dr. NITZE

15—Writers of the sixteenth century, especially Montaigne.

Books: Darmesteter et Hatzfeld, *Le Seizième siècle en France* (Paris, Delagrave); Montaigne, *Essais.* Louandre's edition (Paris, Charpentier) is recommended; Sainte-Beuve, *Tableau historique et critique de la poésie française au seizième siècle;* Du Bellay, *Défense et illustration de la langue française.*

2 hours. Mr. LOISEAUX

16—Critical bibliography of French literature from the sixteenth to the nineteenth century. 2 hours. Professor COHN

17—Methods of teaching French. 2 hours. Professor COHN

Open not only to students in Columbia University, but also to students in the Teachers College

Seminar—Special topics in Romance literature. The French drama from Marivaux to Victor Hugo. 2 hours. Professor COHN

N.B.—For other advanced courses in French language and literature, see under Romance Philology.

Optional Courses

French conversation (elementary course). 1 hour. Mr. JORDAN

French conversation (advanced course). 1 hour. Mr. BARGY

Course in Provençal

1—Old Provençal.

Books: Appel, *Provenzalische Chrestomathie;* Gröber's *Grundriss* (Strasburg, 1888).

1 hour. Professor TODD

Courses in Italian

1—Elementary course—Grammar, reading, composition.

Books: Grandgent, *Italian Grammar;* Grandgent, *Italian Composition Book;* L. Morandi, *Prose e Poesie.*

3 hours. Professor SPERANZA

Open to all students, not seniors, who have satisfied the requirement in French and German. It may not be taken at the same time with Spanish 1.

2—Italian literature in the sixteenth century, composition. 3 hours. Professor SPERANZA

Open only to students who have taken Course 1 or its equivalent.
Not given in 1899–1900. Will be given in 1900-1901.

3—Italian literature in the fourteenth and fifteenth centuries, exclusive of the Divina Commedia. Composition.

Books: Dante, *Vita Nuova*, *Convivio;* Petrarca, *Canzoniere;* Dino Compagni, *Cronica fiorentina;* Bartoli, *I primi due secoli della Letteratura italiana;* Zumbini, *Studi sul Petrarca;* Torraca, *Manuale della Letteratura italiana.*

3 hours. Professor SPERANZA

Open only to students who have taken Course 1 or its equivalent.

4—Critical study of Dante's Divina Commedia. 2 hours. Professor SPERANZA

5—History of Italian literature—Lectures and private reading. 1 hour. Professor SPERANZA

N.B.—For other advanced courses in Italian language and philology, see under Romance Philology.

Courses in Spanish

1—Elementary course—Grammar, reading, composition.

Books: Knapp, *Spanish Grammar;* Galdòs, *Doña Perfecta;* P. A. de Alarcon, *El Final de Norma;* Breton de los Herreros, *La Independencia.*

3 hours. Mr. LOISEAUX

Open to all students, not seniors, who have satisfied the requirement in French and German. It may not be taken at the same time with Italian 1.

2—The Spanish novela in the time of Cervantes, composition.

Books: Cervantes, *Don Quijote*, *Entremeses*, *Novelas Ejemplares;* Juan Calderon, *Cervantes Vindicado.*

3 hours. Professor TODD and Mr. FITZ-GERALD

Open only to students who have taken Course 1 or its equivalent.

3—The classical dramatists of Spain: Lope de Vega, Calderon, etc. Composition. 3 hours. Professor SPERANZA

Open to students who have taken Course 1 or its equivalent.
Not given in 1899–1900. Will be given in 1900–1901.

4—The origins of Spanish poetry. El Poema del Cid. 1 hour. Professor TODD

5—History of Spanish literature—Lectures and private reading. 1 hour. Professor COHN

N.B.—For other advanced courses in Spanish language and philology, see under Romance Philology.

Optional Course

Spanish Conversation. 1 hour. Mr. LOISEAUX

The following two courses are open only to graduate students who have a knowledge of French and of at least one other Romance language, as well as a reading knowledge of German:

Portuguese

1—Books: Lencestre, *La langue portugaise;* Camoens, *Os Lusiadas.*
2 hours. Professor TODD

Rumanian

1—Books: Candréa, *Grammaire roumaine*; Cionca, *Praktische Grammatik der Romänischen Sprache;* Tocilescu, *Manual de Istoria Română.*
2 hours. Professor COHN

Courses in Romance Philology

1—Introduction to Romance philology. 2 hours. Professor TODD

Open to seniors in Columbia College and to university students.

The following courses are open only to university students:

Courses 2, 3, and 4, are given in successive years.

2—The works of Chrétien de Troyes. 1 hour. Professor TODD

Not given in 1899–1900.

3—Old French dialects.
Not given in 1899–1900.
1 hour. Professor TODD

4—The formative elements of Romance speech.
Books: Behren's Schwan's *Altfranzösische Grammatik;* Gröber, *Grundriss.*
1 hour. Professor TODD

Seminar—Study of the sources and development of the *Chanson de Roland.*
2 hours. Professor TODD

N.B.—Weekly lectures in French, Italian, and Spanish, open to all members of the University, are given by the members of the department and by distinguished European lecturers.

The Romance Club

The Romance Club consists of all the instructors and advanced students in the department. At its meetings, which take place at stated times—usually once in two weeks, in Room 302, West Hall—an account is given of the most important articles on the Romance Languages and Literatures in the recent French, English, German, Italian, and Spanish periodicals ; new books are discussed, letters from absent instructors and former students in the department are read, etc. The meetings are partly of a social character, and are intended to bring instructors and students into closer personal relations.

Equipment

The Library of Columbia University is well supplied with French, Spanish, and Italian works, as well as with works upon Romance philology. Its list of periodicals of interest for students in the department is especially rich. The Library has also complete sets of the most important series and collections, such as the Altfranzösische Bibliothek, Romanische Bibliothek, publications of the Modern Language Association, publications of the Société des anciens textes français, Histoire littéraire de la France, Ausgaben und Abhandlungen aus dem Gebiete der romanischen Philologie, Jahrbuch für romanische und englische Sprachen, etc.

Scandinavian

(See page 103)

Semitic Languages

(See page 140)

Sociology and Statistics

(See page 72)

Spanish

(See page 172)

Surgery

WILLIAM T. BULL, M.D. *Professor*
ROBERT F. WEIR, M.D. *Professor*
CHARLES MCBURNEY, M.D. *Professor of Clinical Surgery*
FRANK HARTLEY, M.D. *Clinical Lecturer and Instructor in Operative Surgery*
FRANCIS H. MARKOE, M.D. *Clinical Lecturer*
BERN B. GALLAUDET, M.D. *Clinical Lecturer*
ANDREW J. MCCOSH, M.D. *Clinical Lecturer*
CHARLES T. POORE. M.D. *Clinical Lecturer*

ROBERT ABBE, M.D.....*Clinical Lecturer*
WILLIAM B. COLEY, M.D.....*Clinical Lecturer*
ELLSWORTH ELIOT, Jr., M.D.....*Chief of Clinic and Instructor in Minor Surgery*
ALEXANDER B. JOHNSON, M.D.....*Instructor in Surgery*
LUCIUS W. HOTCHKISS, M.D.....*Instructor in Surgery*
CHARLES N. DOWD, M.D.....*Instructor in Surgery*
CHARLES T. PARKER, M.D.....*Assistant Instructor in Operative Surgery*
JOHN B. WALKER, M.D.....*Assistant Instructor in Operative Surgery*
EDWARD M. FOOTE, M.D.....*Clinical Assistant*
WALTON MARTIN, M.D.....*Clinical Assistant*
A. S. VOSBURGH, M.D.....*Clinical Assistant*
D. S. D. JESSUP, M.D.....*Clinical Assistant*
F. R. COOK, M.D.....*Clinical Assistant*
J. C. AYER, M.D.....*Clinical Assistant*
H. E. MEEKER, M.D.....*Clinical Assistant*
A. S. TAYLOR, M.D.....*Clinical Assistant*
PEDRO FRANCKE, M.D.....*Clinical Assistant*

Courses

1—Surgical pathology, general and regional surgery—Didactic lectures. 2 hours. Professors BULL and WEIR

Required, in the third and fourth years, of candidates for the degree of M.D.

2—Clinics in general surgery at the Vanderbilt Clinic. 2 hours. M. and Th. at 12. Professors BULL and WEIR

Required, in the third year, of candidates for the degree of M.D.

3—Minor surgery and bandaging—Practical instruction at the Vanderbilt Clinic, and the out-patient department, Roosevelt Hospital. 12 lessons for each student. Drs. ELIOT and JOHNSON

Required, in the third year, of candidates for the degree of M.D.

4—Practical instruction in minor operative surgery at the Vanderbilt Clinic. 1 lesson per week to each student for two months. Dr. ELIOT

Required, in the fourth year, of candidates for the degree of M.D.

5—Operative surgery upon the cadaver—Practical instruction to classes of 20 members each. Each student performs for himself upon the cadaver the principal operations, including the ligation of arteries, amputations, resections, and the removal of parts. Special attention is paid to operations upon the abdominal viscera. 7 to 12 lessons for each student. Drs. HARTLEY, PARKER, and WALKER

Required, in the fourth year, of candidates for the degree of M.D.

6—Practical instruction in surgery to classes of 20 members each in the wards of Bellevue Hospital and the Syms Operating Theatre, Roosevelt Hospital. 16 lessons. Drs. MARKOE, GALLAUDET, HOTCHKISS, and JOHNSON

Attendance obligatory in the fourth year.

7—Practical instruction in the surgery of children at St. Mary's Free Hospital for Children, to classes of 20 members once a week for two months for each student. Dr. DOWD

For third-year students, optional.

8—Hospital clinics:

New York Hospital.

S., 11.30 A.M. or 3.15 P.M. Professors BULL and WEIR
Th., 3 P.M., from February to June. Dr. HARTLEY

Roosevelt Hospital, Syms Operating Theatre.
S., 2.30 P.M. Professor MCBURNEY

Presbyterian Hospital.
Tu., 3 P.M. Dr. MCCOSH

Bellevue Hospital.
Tu., 2.30 P.M. Drs. GALLAUDET and MARKOE

St. Luke's Hospital.
Fri., 2.30 P.M. October to May. Drs. MARKOE and ABBE

Hospital for Ruptured and Crippled.
Fri., 8.30 A.M. Professor BULL and Dr. COLEY

St. Mary's Free Hospital for Children.
Th., 10.30 A.M. to 11.30 A.M. Dr. POORE

Attendance at the hospital clinics of Professors Bull, Weir, and McBurney is required in the third and fourth years. At the other clinics, attendance is optional.

Zoölogy

EDMUND B. WILSON, Ph.D.....*Professor*
HENRY FAIRFIELD OSBORN, Sc.D.....*Professor*
BASHFORD DEAN, Ph.D.....*Adjunct Professor*
GARY N. CALKINS, Ph.D.....*Instructor*
OLIVER S. STRONG, Ph.D.....*Tutor*
HENRY E. CRAMPTON, Ph.D.....*Tutor*
JAMES H. MCGREGOR, Ph.D.....*Tutor*
FREDERICK C. PAULMIER, M.S.....*Assistant*

The courses in this department are mainly elective and lead to the degrees of A.B., A.M., and Ph.D. They consist of lectures followed by practical work in the laboratory, and are arranged consecutively, advancing from instruction belonging properly to a liberal education up to the most advanced and special work.

The lecture and laboratory courses are conducted upon the fourth floor of Schermerhorn.

A—Introductory biological courses. Courses 1 and 2 give an introduction to the principles of animal biology as part of the general education of scientific and academic students. Course 1 is intended for students in the Schools of Applied Science as the preparation for subsequent studies in geology and palæontology. Course 2 is a biological course especially designed, first, for college students electing science for purposes of general culture; second, as an introduction to more advanced courses in zoölogy, botany, and physiology; and, third, as preparation for students intending to study medicine.

B—Intermediate zoölogical course. Course 3, which naturally follows 2, covers a wider range, and is intended for students preparing for more advanced work in zoölogy, and for medicine, physiology, embryology, botany, palæontology, and geology. This course is the second stage of preparation for major work in zoölogy, and, under the conditions stated below, may constitute one half the requirement for a minor. The work in Embryology (3b) may be taken as a separate elective.

C—Applied zoölogy. Course 15 is intended for students in Civil Engineering and in Sanitary Science, and is not dependent upon any other courses.

D—University courses. Courses 4 to 14, founded upon 2 and 3, may be so combined as to carry the student progressively forward to the most highly specialized study and research. The following requirements, given as a guide to students, are subject to modification in special cases: (1) A major in zoölogy requires, after Courses 2 and 3 (or their equivalent), Course 5 and the equivalent of at least one additional full-year course in addition to research. (2) For a minor, Course 3 (or its equivalent) constitutes one half the requirement in the case only of students who have not taken this course as undergraduates; the remaining half comprises any one of the full-year courses, 4, 5, 8, or any two of the half-year courses, 6, 7, 9, 10, 12. Where students have been able to take Course 3 as undergraduate work, a minor comprises, in addition, the equivalent of two full-year or four half-year courses.

E—University biological lectures. In addition to the regular instruction, series of lectures of a broader character are from time to time given by members of the staff and others in the general lecture-room on the first floor of Schermerhorn. In former years courses have been given by Professor Edward B. Poulton, of Oxford University, Professor C. Lloyd Morgan, of University College, Bristol, and Professor W. K. Brooks, of the Johns Hopkins University.

Biological Seminar. Informal discussion and criticism of biological theories in connection with the history of zoölogy. Conducted by officers of the department and graduate students. Thursday evenings, 8 P.M. (February and March). In addition to this a regular seminar is given in connection with Course 5.

Journal Club. One of the special features of the department is the Journal Club, open to instructors and all advanced students, and meeting every week in the Library to report upon special investigations and to present abstracts of articles of special importance in the biological journals.

Elementary Courses

1—Elementary zoölogy—A systematic and descriptive course, including a brief review of the general principles of zoölogy, especially classification, distribution, heredity, and evolution. Particular reference to extinct forms. Text-book : Packard's *Zoölogy* (briefer course). Lectures and laboratory work, $3\frac{1}{2}$ hours, second half-year. Professor DEAN and Dr. CALKINS

Open to students under the Faculty of Applied Science. A required course for first-year Mining Engineers.

2—Elementary biology (zoölogy)—Introductory to morphology and physiology, and to the general principles of biology.

This work is arranged in a longer and a shorter course, consisting of 3 and 2 exercises a week, respectively. The shorter course omits the work in histology and embryology. In this course a detailed study of a series of living forms is made the basis for brief discussions of essential principles.

First Half-Year

(a)—General biology. 2 exercises a week throughout the first quarter-year. General introduction. Protoplasm and the cell. Biology of the earth-worm and the fern. Unicellular organisms : Amœba, pleurococcus, yeast, bacteria, infusoria. Spirogyra, hydra, hydroids. Professor WILSON and Dr. CALKINS

(b)—Elementary zoölogy (invertebrates). 2 exercises a week throughout the second quarter-year. The earth-worm, lobster, crab, insect, mussel, starfish, ascidian. Dr. CALKINS and Mr. PAULMIER

(c)—Elementary histology (longer course). 1 exercise a week throughout the half-year. General study of animal cells and tissues. Dr. STRONG

Second Half-Year

(d)—Elementary zoölogy (vertebrates). 2 exercises a week. The lancelet, dogfish, frog, pigeon, and rabbit. In addition the main problems of evolution and heredity are briefly explained. Professor DEAN and Dr. MCGREGOR

(e) Elementary embryology (longer course). 1 exercise a week. Development of the frog and chick. Professor DEAN and Dr. MCGREGOR

Text-books : Sedgwick and Wilson's *General Biology ;* Marshall and Hurst's *Practical Zoölogy ;* Osborn's *Greeks to Darwin.* Reference books : Parker's *Elementary Biology ;* Thomson's *Zoölogy ;* Foster and Balfour's *Elements of Embryology.*

Open to juniors and seniors. 2 or 3 lectures and 4 or 6 hours laboratory work throughout the year.

Intermediate Course

3—General zoölogy. Vertebrate and invertebrate zoölogy, anatomy, embryology, and ætiology (natural environment, terrestrial and marine faunal areas, principles of distribution).

(a)—Classification and comparative anatomy of the main living orders of fishes, amphibians, reptiles, birds, and mammals. Practical study of the skeleton, integument, muscles, nerves, viscera. Professor DEAN

(b)—Embryology (vertebrates). An examination of the characteristic stages of fishes, amphibian, reptile, bird, and mammal. Embryological technique. Professor DEAN

(c)—Comparative morphology, classification, and general zoölogy of invertebrates. Dr. CALKINS

Text-books: Wiedersheim's *Comparative Anatomy;* Parker's *Zoötomy;* Parker and Haswell's *Zoölogy;* Hertwig's (Mark) *Embryology.*

Open to seniors and graduates. 3 lectures and 6 hours laboratory work throughout the year. The course in elementary biology (2) is a pre-requisite for this course. Students who have previously taken only the shorter course (2—a, b, d) will be required to make up the work included in Courses 2 c, 2 e, but the latter work will not be considered as a partial equivalent for graduate courses. The embryology, 3 (b), may be taken as an elective.

University Courses

Each of the following courses includes a lecture and one or two days of practical work.

4—Comparative neurology. An introduction to the comparative structure of the brain and nervous system of the lower and higher animals. The invertebrate nervous system is broadly treated, as throwing light upon general neurological questions as to the origin and structure of the nervous system. The vertebrate nervous system is studied more in detail, as also leading to a better comprehension of the nervous system of man. Comparative anatomy of the brain, spinal cord, and nerves in amphioxus, fishes, amphibians, reptiles, birds, and mammals. Training in the Weigert, Golgi, and other technical methods. Edinger's *Twelve Lectures upon the Nervous System;* Gaupp's *Anatomie des Frosches*, Abth. ii., erste Hälfte; also the text-books of Wiedersheim and Gegenbaur and the works of Golgi, Cajal, Lenhossék, and others. Dr. STRONG

Open to advanced seniors and graduates. 1 lecture and at least 4 hours laboratory work a week throughout the year. A shorter supplementary course may be offered when desired to supply a more thorough training in neurological technique.

5—Comparative zoölogy. This course completes the general systematic and morphological training begun in Courses 2 and 3. General anatomy and development of vertebrates and invertebrates, with special reference to the problems of phylogeny and classification. Training in anatomical and embryological technique. Lectures, seminar, and laboratory work. 10 hours (2 days) a week. Wiedersheim's *Grundriss der Vergleichenden Anatomie der Wirbelthiere*, Gegenbaur's *Vergleichende Anatomie*, Parker's *Zoötomy*, Lang's *Comparative Anatomy*. Special works, monographs, and papers are extensively used in this course. Professors OSBORN and WILSON

5 a—Readings and conferences in Gegenbaur's *Vergleichende Anatomie*, throughout the year. 1 hour a week. Professor OSBORN and Dr. MCGREGOR

5 b—Morphology of the head. Six lectures upon the development of the head-region and problems connected therewith. Dr. MCGREGOR

Open to graduates. Parallel with Course 5. To be given in 1899–1900.

6—Comparative embryology. A comparative treatment of the earlier stages of development, with especial reference to the general problems of embryology,

6 hours (1 day) a week through the second half-year. Hertwig's *Embryology;* Korschelt and Heider's *Embryology.* Professor WILSON

7—Cellular biology. General structure and functions of the cell. 6 hours (1 day) a week through the first half-year. Hertwig, *Zelle und Gewebe;* Wilson's *Cell.* Professor WILSON

8—Mammals, living and fossil. A study of the structure, evolution, and classification of the mammalia. Lecture and laboratory course. Reference books: Flower's *Osteology;* Flower and Lydekker's *Mammals;* Zittell's *Palæontologie.* 6 hours (1 day) a week. Professor OSBORN

The latter part of this course is given in the American Museum of Natural History.

9—Fishes, living and fossil. This course is mainly morphological: it includes demonstrations, and gives especial attention to the phylogenetic relations of the sub-classes and orders of fishes. Reference books: Smith Woodward's *Catalogue of Fossil Fishes,* Günther's *Study of Fishes,* and Dean's *Fishes Living and Fossil.* 1 lecture a week with demonstrations during second half-year. Professor DEAN

To alternate with 9a.

9a—Embryology of fishes. Practical study of Bdellostoma, Petromyzon, Squalus, Chimæra, Ceratodus, Acipenser, Lepidosteus, Amia, and Teleosts. 1 lecture a week with demonstrations during second half-year. Professor DEAN

9a to be given in 1900.

10—Special morphology—the Protozoa. A general treatment of the classification, morphology, and physiology of this type of organisms, and of their relations to modern theories of biology. 1 lecture a week during second half-year. Bütschli, Protozoa in Bronn's *Thierreich.* Dr. CALKINS

To alternate with 10a.

10a—Special morphology—the Bryozoa. Structure and development of the Bryozoa, with special reference to their taxonomic position. 1 lecture a week during second half-year. Dr. CALKINS

11—Advanced biology. Study of special groups of animals or of special biological problems as an introduction to original investigation. 12 hours (2 days).

13—The human brain and spinal cord. This course includes a study of both macroscopic and microscopic structure, supplemented wherever necessary by references to the structure of the nervous systems of lower forms. It naturally follows 4 but may be taken separately. A previous general knowledge of histology and of the nervous systems of some of the more typical vertebrate brains is desirable. Lecture and four hours laboratory work a week throughout the year. Reference books: The text-books of Edinger, Schäfer, Obersteiner, Déjerine, van Gehuchten, and Kölliker. Dr. STRONG

Open to a limited number of graduates and to seniors under certain conditions.

14—Experimental embryology. A survey of the work in the fields of morphogenesis and developmental mechanics. 1 hour lecture a week during the first half-year. Reference books: Wilson's *Cell;* Morgan's *Development of the Frog;* Davenport's *Experimental Morphology.* Dr. CRAMPTON

Applied Zoölogy

15—Sanitary biology. A general course covering the main principles of zoölogy as they apply to microscopical organisms. The protozoa and other microscopic forms in their relations to odors, tastes, and appearances in drinking waters. Methods and results. Selected readings. Dr. CALKINS

Designed for students in Civil Engineering, Sanitary Science, and Chemistry—Lecture and laboratory work. 3 hours, during first half-year.

Equipment and Publications

LABORATORIES AND MUSEUM—The zoölogical laboratories on the upper floor of Schermerhorn comprise a large general undergraduate laboratory, two graduate laboratories, a laboratory for neurology, and eight rooms for private research, besides special rooms for supplies, aquaria, and preparation, and a commodious lecture-room, library, and seminar room. The laboratories are well equipped with optical instruments, microtomes, and other apparatus for advanced morphological work. The teaching collections include a large series of the Mediterranean and American marine types, the injected vertebrate series of Frič and Müller, an extensive set of standard and specially prepared charts and wax models, and a variety of living animals and plants contained in fresh-water and marine aquaria. The collection also contains a fine cabinet of shells bequeathed by the late Mr. Van Nostrand.

LIBRARY—The departmental library, a part of the University Library kept in the laboratory, the gift of Charles H. Senff, Esq., is a memorial to the late Dr. John I. Northrop, and embraces full sets of the standard biological works, including the journals and a rapidly increasing collection of memoirs and special monographs. A fund is available for the purchase of literature needed in connection with the special researches of students. Forty-three of the current biological journals are subscribed for. The Library of the New York Academy of Sciences is also housed in the building.

DYCKMAN FUND—The interest of a fund of $10,000 established by Isaac M. Dyckman, Esq., is available annually for the encouragement of biological research. It may be granted, entire, or in part, to the applicant recommended by the head of the department. Or it may be used in such a way as will best further the purpose of the donor, *e.g.*, for purchases, lectures, or publication.

PUBLICATION—The more important papers published from the laboratory are to be collected and reissued in *Zoölogical Contributions from Columbia University*. The *University Press* issues the *Columbia University Biological Series*, a number of educational volumes originally founded upon public lectures, of which five have already appeared and a sixth is in preparation. Another feature in advanced instruction is the connection with the biological section of the New York Academy of Sciences, which affords opportunities for public reading, discussion, and printing of scientific papers.

Field Work

MARINE ZOÖLOGY—The Marine Biological Laboratories at Wood's Hole, Mass., and at Cold Spring Harbor, Long Island, form a valuable adjunct to

the biological instruction of the University. In the former, two investigators' rooms are subscribed for the University for the use of the departments of Zoölogy and Physiology: the latter has been available through the John D. Jones Scholarship. Circulars of the summer courses are obtainable in the department.

NAPLES—Through William E. Dodge, Esq., the University also subscribes to one half of the American University Table, at the Naples Zoölogical Station, Italy. Applications should be made to Professor Wilson.

THE JOHN D. JONES SCHOLARSHIP, established in the University during the past two years by the Wawepex Society, has been awarded to the post-graduate student in Zoölogy designated by the head of the department. It amounts to $200 in addition to the fee for an investigator's table at the Cold Spring Harbor Biological Laboratory.

PUGET SOUND ZOÖLOGY—In 1896 a laboratory was established upon Puget Sound, at Port Townsend, Washington. The investigation of the Pacific fauna, thus begun, has been continued during 1897 and 1899 at different points along the coast from Monterey, California, to Sitka, Alaska. The faunal and morphological reports of this work are now being published in serial order.

ZOÖLOGY OF THE NILE—Through the liberality of Charles H. Senff, Esq., two expeditions to the Nile were made during the summers of 1898 and 1899 by N. R. Harrington (Fellow), F. B. Sumner (Fellow), and Dr. Reid Hunt. The materials and publications are in charge of Professor DEAN.

American Museum of Natural History

The American Museum of Natural History faces Central Park at 77th Street. By an agreement between the Trustees of the University and of the Museum, effected in 1892, qualified students of the University have access, under certain regulations, to the large exhibition and study collections of the Museum. The Museum is especially strong in the departments of geology, mineralogy, invertebrate palæontology, ornithology, and mammalogy. In 1891 a department of vertebrate palæontology was established under Professor Osborn, as curator, and the extensive collections of fossil mammals being made in the West, as well as the entire Cope collection, afford new materials for original investigation by advanced students.

UNIVERSITY DEGREES

Regulations for the Degrees of Master of Arts and Doctor of Philosophy

1 Candidates for the degrees of Master of Arts and Doctor of Philosophy must hold a baccalaureate degree in arts, letters, philosophy, or science, or an engineering degree, or an equivalent of one of these from a foreign institution of learning.

Every candidate for a higher degree must present to the dean of each school in which he intends to study satisfactory evidence that he is qualified for the studies he desires to undertake.

2 Candidates for the degrees of Master of Arts and Doctor of Philosophy must pursue their studies in residence for a minimum period of one and two years, respectively.* The year spent in study for the degree of Master of Arts is credited on account of the requirement for the degree of Doctor of Philosophy. Residence at other universities may be credited to a candidate. In certain cases and by special arrangement, time exclusively devoted to investigation in the field will be credited in partial fulfilment of the time required. No degree will be conferred upon any student who has not been in residence at Columbia University for at least one year.

3 Each student who declares himself a candidate for the degrees of Master of Arts and Doctor of Philosophy, or either of them, shall, immediately after registration, designate one principal or major subject and two subordinate or minor subjects.

Candidates are expected to devote at least one-half of their time throughout the course of study to the major subject. In the case of laboratory courses this implies two days a week, or its equivalent, as determined by each department. Each minor subject is intended to occupy approximately one-fourth of the time during one year for the degree of Master of Arts, and during two years for the degree of Doctor of Philosophy.

Minor subjects may not be changed except by the permission of the dean, to be given only on the written recommendation of the heads of the departments from which and to which the change is desired ; major subjects may not be changed except by a special vote of the faculty in each case.

4 The subjects from which the candidate's selection must be made are :

* In practice three years of study are usually necessary to obtain the degree of Doctor of Philosophy.

Under the Faculty of Philosophy

I. *Major Subjects :* 1. Philosophy ; 2. psychology ; 3. education ; 4. linguistics ; 5. literature ; 6. music ; 7. classical archæology and epigraphy ; 8. Greek language and literature, and, incidentally, Grecian history ; 9. Latin language and literature, and incidentally, Roman history ; and the following, *including in each case the study of both the language and the literature :* 10. English ; 11. Germanic ; 12. Romance ; 13. Sanskrit (with Pālī) and Iranian ; 14. Semitic ; 15. anthropology. Nos. 3, 5, 11, 12, 13, and 14 count each as the equivalent of a major and one minor subject.

II. *Minor Subjects :* 1. Philosophy : 2. psychology ; 3. logic ; 4. education ; 5. anthropology ; 6. linguistics ; 7. literature ; 8. music ; 9. Greek ; 10. Greek archæology ; 11. Latin ; 12. Roman archæology ; 13. Sanskrit ; 14. Iranian ; 15. English ; 16. Anglo-Saxon ; 17. Gothic ; 18. Germanic philology ; 19, German language and literature ; 20. Scandinavian languages and literatures ; 21. Romance philology ; 22. French language and literature ; 23. Spanish language and literature ; 24. Italian language and literature ; 25. Hebrew ; 26. Arabic ; 27. Assyrian ; 28. Syriac ; 29. Ethiopic ; 30. Semitic epigraphy ; 31. Turkish ; 32. Armenian.

In his choice of subjects under this faculty, the candidate is limited by the regulation that not more than two of the three subjects may be selected from those offered by any one department. A major subject will involve attendance at lectures and seminars amounting to four or more hours weekly ; a minor subject will involve attendance of two or more hours weekly.

Under the Faculty of Political Science

Group I.—History and political philosophy : 1. European history ; 2. American history ; 3. political philosophy.

Group II.—Public law and comparative jurisprudence : 1. Constitutional law ; 2. international law : 3. criminal law ; 4. administrative law ; 5. comparative jurisprudence.

Group III.—Economics and social science ; 1. Political economy and finance ; 2. sociology and statistics.

In his choice of subjects under this faculty, the candidate is limited by the regulation that not more than two of the three subjects may be selected from any one of the above groups, and by the following rules :

Candidates offering European history as the major subject, must offer American history as one of the minor subjects, and *vice versa*.

Candidates offering political economy and finance as the major subject, must offer sociology and statistics as one of the minor subjects, and *vice versa*.

Candidates will not be permitted to offer constitutional law alone as the major subject for the degree of Doctor of Philosophy, but must combine with it the course on general international law or on comparative administrative law.

Candidates offering international law, or criminal law, or administrative law as the major subject, must take constitutional law as one minor subject.

Candidates will not be permitted to offer criminal law alone as the major subject for the degree of Doctor of Philosophy, but must combine with it the course of general international law.

To be recognized as a major subject for the degree of Master of Arts the courses selected must aggregate at least two hours per week throughout the year, and must also include attendance at a seminar; for a minor subject for the degree of Master of Arts, the attendance at a seminar is not required.

To be recognized as a minor subject for the degree of Doctor of Philosophy, courses must be taken, in addition to the requirements for a minor subject for the degree of Master of Arts, aggregating two hours weekly. All the courses and seminars offered in the major subject must be taken by candidates for the degree of Doctor of Philosophy.

Under the Faculty of Pure Science

Mathematics; mechanics; astronomy; geodesy; physics; chemistry; mineralogy; geology; palæontology; lithology; zoölogy; botany; physiology; anatomy; bacteriology.

In his choice of subjects under this faculty, the candidate is limited by the regulation that no two of the subjects selected may be in any one department, unless the consent of the faculty thereto shall have first been obtained.

Under the Faculty of Applied Science

Mining; metallurgy; engineering (civil, mechanical, electrical, and sanitary); architecture.

The Faculty of Applied Science requires that at least one minor subject be taken under the Faculty of Pure Science.

A minor subject may be taken in the same department as the major, but no two minors may be taken in the same department.

5 Each student is given a registration book which is signed by the professor or instructor in charge of each course of instruction or investigation at the beginning and end of each course. This registration book is to be preserved by the student as evidence of courses attended, and should be submitted to the Deans of the several Faculties at the end of each year, after which the registration book becomes the permanent property of the student.

6 (*a*) Students desiring to be examined for the degrees of Master of Arts, Master of Laws, or Doctor of Philosophy, shall make application on or before April 1st of the academic year in which the examination is desired, on blanks provided by the University, to the Secretary of the University.

(*b*) Immediately after April 1st, the Secretary of the University shall notify the Deans of the Faculties of Political Science, Philosophy and Pure Science, and also the Bursar, of the names of students applying for examination for higher degrees in each of these three Faculties, together with the subjects in which the candidate offers himself for examination and the degree for which he is a candidate.

(*c*) The examination shall be held under the authority and direction of the several Deans.

(*d*) The results of such examinations shall be reported as soon as possible to the Bursar of the University, who shall transmit to the Secretary of the University Council the record of each successful candidate for a degree, as soon as such record is completed.

7 Each candidate for the degree of Master of Arts shall present an essay on some topic previously approved by the professor in charge of his major subject. Before the candidate is admitted to examination the professor in charge of his major subject must have signified his approval of such essay. This essay must be presented not later than May 1 of the academic year in which the examination is to take place. The Faculty of Political Science requires this essay to be a paper read during the year before the seminar of which the candidate is a member.

When the essay has been approved, the candidate shall file with the Librarian of the University a legibly written or typewritten copy of it. This copy is to be written on firm, strong paper, eleven by eight and a half inches, and a space of one and a half inches on the inner margin must be left free from writing.

8 Each candidate for the degree of Doctor of Philosophy shall present a dissertation embodying the result of original investigation and research, on some topic previously approved by the professor in charge of the candidate's major subject. When such dissertation has been approved by the said professor, it shall be printed by the candidate, under the direction of the Dean of the Faculty, and one hundred and fifty copies shall be delivered to the Faculty, unless, for reasons of weight, a smaller number be accepted by special action of the University Council. On the title-page of every such dissertation shall be printed the words: "Submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy, in the Faculty of ———, Columbia University."

There shall be appended to each dissertation a statement of the educational institutions that the author has attended, a list of the degrees and honors conferred upon him, as well as the titles of his previous publications.

All dissertations for the degree of Doctor of Philosophy must be submitted for approval not later than April 1 of the academic year in which examination is desired.

In case of excessive cost and delay in publishing a dissertation which has been approved by a department and accepted for publication by a reputable journal or scientific or literary association, the degree of Doctor of Philosophy may be conferred. The facts in every such case concerning the publication are to be certified to the Council by the faculty concerned.

In the Faculty of Political Science, with the consent of the dean and the professor in charge of the candidate's major subject, the examination may be held before the printed dissertation is submitted.

The Faculty of Pure Science requires the dissertation to be printed in the size and form of the annals or the memoirs of the New York Academy of Sciences, according to the nature of the subject. Final examination may be granted upon acceptance of the dissertation by the department concerned.

The Faculty of Applied Science requires the dissertation to be printed in the size and style of the School of Mines *Quarterly*, and delivered to the faculty not later than May 1 of the academic year in which the examination is to take place.

9 Every candidate for the degree of Doctor of Philosophy, must pass, besides

such other examinations as the faculty may require, an oral examination on all three subjects, and must defend his dissertation, in the presence of the entire faculty or of so many of its members as may desire to attend. The ability to read at sight French and German, to be certified in each case by the dean of the faculty concerned, is required by all the faculties. The Faculties of Philosophy and Political Science ordinarily require also the ability to read Latin at sight, but this requirement may be waived for reasons of weight.

10 Students holding college degrees, who shall have completed with marked distinction one of the regular courses in the School of Law, the School of Medicine, the School of Mines, the School of Chemistry, the School of Engineering, or the School of Architecture, may be recommended for the degree of Master of Arts; provided that in each case the candidate shall have taken additional work, under the direction of the Faculty of Philosophy, the Faculty of Political Science, or the Faculty of Pure Science, to the extent of a minor subject, as recognized by the faculty concerned, for not less than one academic year.

Every such candidate shall present an essay on some topic previously approved by the professor in charge of his minor subject. Before the candidate is admitted to examination the professor in charge of his minor subject must have signified his approval of such essay. This essay must be presented not later than May 1 of the academic year in which the examination is to take place. The Faculty of Political Science requires this essay to be a paper read during the year before the seminar of which the candidate is a member.

When the essay has been approved, the candidate shall file with the Librarian of the University a legibly written or typewritten copy of it. This copy is to be written on firm, strong paper, eleven by eight and a half inches, and a space of one and a half inches on the inner margin must be left free from writing.

11 No student shall continue to be a candidate for the degree of Doctor of Philosophy for a longer period than three years from the time he ceases to be in residence.

12 The University Council has been authorized by the Trustees to permit at its discretion, students who have taken the degree of Doctor of Philosophy at this university to continue their researches in the laboratories of the University without payment of fees.

13 University officers of the grade of Assistant, who desire to become candidates for degrees may do so when their applications have been formally approved by the President.

Regulations for the Degree of Master of Laws

1 Any student who has satisfactorily completed the regular course of study in Columbia College, to the close of the junior year, or in some other college maintaining an equivalent curriculum (every such case of equivalency to be considered on its own merit), shall be entitled to be recommended for the degree of Master of Laws upon certificates from the Faculty of Law and the Faculty of Political Science that he has satisfactorily completed a four-years' course of study under said faculties.

2 Every candidate for the degree of Master of Laws must elect from the subjects offered by said faculties, courses aggregating, in the four years, fifty-two hours per week, and must pass satisfactory examinations upon these subjects elected ; provided that not more than thirty-four hours of work may be elected either in the field of Private Law, or in that of Public Law, Social Ethics, History, and Economics.

3 Students, otherwise qualified, who have received the degree of Bachelor of Laws from this University, after pursuing the full course of study, shall be entitled, upon pursuing for an additional year a course of study of at least thirteen hours per week, under either or both of said faculties, and passing satisfactory examinations therein, to receive the degree of Master of Laws ; provided that no student shall receive the degree who has not studied and passed satisfactory examinations in Comparative Constitutional Law, Administrative Law, Roman Law, International Law, and in the three courses offered on Equity,* and who has not pursued here, or elsewhere, courses of instruction satisfactory to the Faculty of Political Science in History, Social Ethics, and Economics.

4 Each faculty shall determine the order in which the subjects offered by it shall be taken, and the maximum amount of work to be done therein during any one year.

5 Students from other universities, colleges, or law schools, who shall have satisfactorily completed a course of study equivalent to at least one term of thirteen hours per week in the subjects indicated in Section 2, after receiving a bachelor's degree, may be excused from the corresponding number of terms of the four years' residence required at Columbia, provided that in no case shall any one receive the degree of Master of Laws who has not spent at least four years in the study of the said subject in some university, college, or law school ; and the decision whether work at another institution shall be accepted as equivalent to work at Columbia, shall rest, as far as the studies under the Faculty of Law are concerned, with the Faculty of Law, and as far as the studies under the Faculty of Political Science are concerned, with the Faculty of Political Science. But neither faculty shall admit a student from another university, college, or law school, to examination for the degree of Master of Laws without a residence of at least one year in this University.

* Under this provision students would be allowed, but not required, to take History of European Law, Conflict of Private Law, Law of Municipal Corporations, and the Law of Taxation.

COLUMBIA COLLEGE

The following departments are represented in the Faculty :

ASTRONOMY
BOTANY
CHEMISTRY
ENGLISH
 ENGLISH LANGUAGE AND LITERATURE
 LITERATURE
 RHETORIC AND ENGLISH COMPOSITION
GEOLOGY
GERMANIC LANGUAGES AND LITERATURES
GREEK
HEBREW
HISTORY
LATIN
MATHEMATICS
MECHANICS
PHILOSOPHY, PSYCHOLOGY, ANTHROPOLOGY, AND EDUCATION
PHYSICS
POLITICAL ECONOMY
ROMANCE LANGUAGES AND LITERATURES
ZOÖLOGY

Officers of the Faculty

Ex-Officio Members of the University Council

J. H. Van Amringe, Ph.D., L.H.D., LL.D....*Dean*
H. T. Peck, Ph.D., L.H.D.....*Secretary*

Standing Committees

Committee on Curriculum and Scheme of Attendance

Professor Van Amringe, *Chairman*
" Mayo-Smith
" Butler
" Woodberry
" Perry

Committee on Admissions

Professor Fiske, *Chairman*
" Hallock
" G. R. Carpenter
" Wheeler
" Thomas

Committee on Scholarships

Professor Van Amringe, *Chairman*
" Price
" Rees

Committee on Honors

Professor Peck, *Chairman*
" Hallock
" Woodward

The Faculty

SETH LOW, LL.D., *President*

J. HOWARD VAN AMRINGE, Ph.D., L.H.D., LL.D., *Professor of Mathematics*

OGDEN N. ROOD, A.M., *Professor of Physics*

CHARLES F. CHANDLER, Ph.D., M.D., LL.D., *Professor of Chemistry*

JOHN W. BURGESS, Ph.D., LL.D., *Professor of Political Science and Constitutional Law*

RICHMOND MAYO-SMITH, Ph.D., *Professor of Political Economy and Social Science*

THOMAS R. PRICE, LL.D., *Professor of the English Language and Literature*

JOHN KROM REES, E.M., Ph.D., *Professor of Astronomy*

H. T. PECK, Ph.D., L.H.D., *Professor of the Latin Language and Literature*

NICHOLAS MURRAY BUTLER, Ph.D., LL.D., *Professor of Philosophy and Education*

EDWIN R. A. SELIGMAN, LL.B., Ph.D., *Professor of Political Economy and Finance*

WILLIAM H. CARPENTER, Ph.D., *Professor of Germanic Philology*

ADOLPHE COHN, LL.B., A.M., *Professor of the Romance Languages and Literatures*

GEORGE EDWARD WOODBERRY, A.B., *Professor of Literature*

EDWARD DELAVAN PERRY, Ph.D., *Jay Professor of the Greek Language and Literature*

A. V. WILLIAMS JACKSON, L.H.D., Ph.D., *Professor of the Indo-Iranian Languages*

RICHARD J. H. GOTTHEIL, Ph.D., *Professor of Rabbinical Literature and the Semitic Languages*

WILLIAM A. DUNNING, Ph.D., *Professor of History*

HENRY F. OSBORN, D.Sc., *Da Costa Professor of Zöology*

JAMES F. KEMP, E.M., *Professor of Geology*

EDMUND B. WILSON, Ph.D., *Professor of Zoölogy*

WILLIAM HALLOCK, Ph.D., *Adjunct Professor of Physics*

ROBERT S. WOODWARD, C.E., Ph.D., *Professor of Mechanics and Mathematical Physics*

GEORGE R. CARPENTER, A.B., *Professor of Rhetoric and English Composition*

HENRY A. TODD, Ph.D., *Professor of Romance Philology*

THOMAS SCOTT FISKE, Ph.D., *Professor of Mathematics*

JAMES RIGNALL WHEELER, Ph.D., *Professor of Greek*

JAMES C. EGBERT, Jr., Ph.D., *Adjunct Professor of Latin*

JAMES H. HYSLOP, Ph.D., *Professor of Logic and Ethics*

CARLO L. SPERANZA, A.M., B. ès L., *Adjunct Professor of the Romance Languages and Literatures*

CALVIN THOMAS, A.M., *Gebhard Professor of the Germanic Languages and Literatures*

WILLIAM MILLIGAN SLOANE, Ph.D., LL.D., *Seth Low Professor of History*

LUCIEN M. UNDERWOOD, Ph.D., *Professor of Botany*

CHARLES E. PELLEW, E.M., *Adjunct Professor of Chemistry*

WATSON L. SAVAGE, A.M., M.D., *Director of the Gymnasium*

Emeritus Officer

JOHN D. QUACKENBOS, A.M., M.D., *Emeritus Professor of Rhetoric.*

For details as to other officers of instruction see departmental statements.

ADMISSION

The Committee on Admissions has charge of everything relating to this subject.

1. Candidates for admission to the Freshman class, at its formation, must be *fifteen years* of age; and for admission to advanced standing there is required a corresponding increase of age; but this rule may be dispensed with when, in the opinion of the Committee on Admissions, there are sufficient reasons to justify its relaxation.

Enrolment and Certificates

2. An applicant for admission must file with the Bursar, at least one week before the first day of the entrance examinations of each year in which he wishes to present himself for examination, a certificate from his principal instructor containing a definite statement of the subjects which he is qualified to offer at the examinations of that year.

No student will be examined in June, 1900, whose name is not enrolled and whose certificate is not filed on or before Monday, June, 11, of the same year; nor will any student be examined in September, 1900, whose name is not enrolled and whose certificate is not filed on or before Monday, September 17.

No student will be examined in June, 1901, whose name is not enrolled and whose certificate is not filed on or before Monday, June 10, of the same year; nor will any student be examined in September, 1901, whose name is not enrolled and whose certificate is not filed on or before Monday, September 23.

Blank forms of the certificate required can be had upon application to the Bursar. In the case of students expecting to be examined at a distance, the names must be enrolled and the certificates filed one week earlier.

Any candidate for admission to the Freshman class who has made, or intends to make, an application for a scholarship, must indicate that fact upon the above mentioned certificate.

Every candidate for admission is required to pay to the Bursar a fee of five dollars ($5) before being admitted for the first time to the entrance examinations (see article on Fees).

3. Every candidate must, before admission, present a certificate of good moral character from his last teacher, or from some citizen in good standing, and students from other institutions must bring certificates of honorable dismission.

Entrance Examinations

4. Entrance examinations will be held at the College, beginning on the Monday following the second Wednesday in June, and on the last Monday in September. In 1900 the examinations will begin on June 18 and September 24; in 1901, on June 17 and September 30.

5. The entrance examination is designed to test the ability of the candidate to undertake the course of study, and not merely to ascertain the character and the amount of his acquired knowledge. Specimen question papers, used at the entrance examinations in previous years, may be obtained from the Bursar upon application.

Requirements for Admission

6. All candidates for admission to the Freshman class must pass satisfactory examinations in the following subjects:

ENGLISH, ELEMENTARY MATHEMATICS, and LATIN,

and also in one of the following groups of subjects:

I { GREEK / FRENCH } II { GREEK / GERMAN } III { A NATURAL SCIENCE WITH LABORATORY WORK (CHEMISTRY, PHYSICS, or BOTANY) and three of the following subjects: FRENCH, GERMAN, HISTORY, ADVANCED MATHEMATICS.

7. Students who offer both French and German at entrance are relieved of the obligation to pursue those studies in College.

8. The only subjects which may be substituted for Greek are stated in section 6.

9. Students are designated in accordance with the subjects they present at entrance, as follows:

Group I Offering Greek and French.

Group II Offering Greek and German.

Group III Offering a natural science, and three of the following: French, German, history, and advanced mathematics.

English:

10. No applicant will be accepted in English whose work is notably defective in point of spelling, grammar, idiom, punctuation, or division into paragraphs.

1. Reading and composition.—The candidate will be required to present evidence of a general knowledge of the subject-matter of the prescribed books, and to answer simple questions on the lives of their authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to show the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In place of a part or the whole of this test, the candidate may present an exercise book,* properly certified by his instructor, containing compositions or other written work done in connection with the reading of the books.

* Specific directions with regard to the preparation of such exercise books may be obtained by addressing the Department of Rhetoric, Columbia University.

The candidate is expected to read intelligently all the books prescribed. He should read them as he reads other books: he is not expected to know them minutely, but to have freshly in mind their most important parts. In preparation for this part of the requirement, it is important that the candidate shall have been instructed in the fundamental principles of rhetoric.

Candidates offering this part of the requirement as a preliminary subject should be prepared on the books prescribed for the year in which they are to take their final examination, *i. e.*, candidates who are to be examined on part 2 of the English requirement in 1901 should present themselves for examination in 1900 on part 1 of the list for 1901.

The books prescribed for this part of the examination are as follows:

In 1900: Dryden's Palamon and Arcite; Pope's Iliad, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in the Spectator; Goldsmith's Vicar of Wakefield; Scott's Ivanhoe; De Quincey's Flight of a Tartar Tribe; Cooper's Last of the Mohicans; Tennyson's Princess; Lowell's Vision of Sir Launfal.

In 1901 and 1902: Shakspere's Merchant of Venice; Pope's Iliad, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in the Spectator, Goldsmith's Vicar of Wakefield; Coleridge's Ancient Mariner; Scott's Ivanhoe; Cooper's Last of the Mohicans; Tennyson's Princess; Lowell's Vision of Sir Launfal; George Eliot's Silas Marner.

2. Study and composition.—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon the subject-matter, the literary form, and the logical structure. The candidate may be required, in addition, to answer questions involving the essentials of English grammar, and questions on the leading facts in those periods of English literary history to which the prescribed works belong.

In connection with the reading and study of the required books, parallel or subsidiary reading should be encouraged, and a considerable amount of English poetry should be committed to memory. The essentials of English grammar should not be neglected in preparatory study.

The books prescribed for this part of the examination are as follows:

In 1900: Shakspere's Macbeth; Milton's Paradise Lost, Books I and II; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

In 1901 and 1902: Shakspere's Macbeth; Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

Elementary Mathematics:

1. Algebra: factors, common divisors and multiples, fractions, equations of the first degree with one or more unknown quantities, involution, including the binomial theorem for positive entire exponents, evolution, the doctrine of exponents, radicals and equations involving radicals, quadratic equations of one or two unknown quantities, and equations solved like quadratics, ratio and proportion, and putting problems into equations.

2. Geometry: plane geometry, including the solution of simple original exercises and numerical problems.

While there is no formal examination in arithmetic as a separate requirement, a knowledge of the metric system and the ability to reckon accurately are presupposed.

Latin:

1. Cicero and Latin grammar—

The translation of passages selected from the portions of Cicero specified in 1 (*c*) (see "preparatory course" below), with questions designed to test the candidate's understanding of the passages, and also questions on the subject-matter. The translation at sight of passages of not too great difficulty selected from other portions of Cicero's speeches. A thorough examination upon a prescribed portion of Cicero's speeches (for three years, beginning with 1898, the 2d, 3d, and 4th orations against Catiline), directed to testing the candidate's mastery of the ordinary forms, constructions, and idioms of the language.

2. Vergil—

The translation of passages selected from the portions of Vergil specified in 1 (*d*) (see "preparatory course" below), with questions designed to test the candidate's understanding of the passages, and also questions on the subject-matter. The translation at sight of passages of not too great difficulty selected from other portions of Vergil.

3. Other authors—

The translation at sight of passages selected from Nepos, Cæsar, and Ovid (see "preparatory course" below), or from other prose and verse of no greater difficulty. In connection with the passages set for translation, questions may be asked on ordinary forms, constructions, and idioms, and also questions designed to test the candidate's understanding of the passages.

4. Latin prose composition—

The translation into Latin prose of a passage of connected English narrative. The passage set for translation will be based upon some portion of the prose works specified in the "preparatory course" below, and will be limited to the subject-matter of those works. The proficiency of the candidate will also be tested by his ability to translate into Latin short English sentences involving the use of ordinary constructions and idioms.

The preparatory course, on which the examinations will be based, is defined as follows:

1. The course should include:

(*a*) Easy reading, included in or following a suitable introductory book, amounting to from 30 to 40 pages*;

(*b*) Nepos and Cæsar, 90 to 120 pages;

* The pages of the more recent Teubner text editions are taken as a standard in this statement.

(*c*) Cicero, the speech on the Manilian Law, the four against Catiline, and either the speech for Archias or the Fourteenth Philippic, with additional speeches at the option of the teacher, 90 to 120 pages in all;

(*d*) Vergil, Æneid I–VI, with additional selections from Ovid and Vergil at the option of the teacher, 6000 to 8000 verses in all.

2. Throughout the preparatory course pupils should be constantly guided in proper methods of reading, and should be trained to read the Latin understandingly, as Latin, before undertaking to render it into idiomatic English. There should also be constant practice in reading aloud, with due expression, and in hearing the language read.

3. After the completion of the introductory lessons, a systematic study of Latin grammar, with practice in writing Latin, should be maintained throughout the course.

Greek:

1. Grammar. A thorough knowledge of the common forms, idioms, and constructions and of the general grammatical principles of Attic prose Greek, to be tested by an examination on a prescribed portion of Xenophon (for the next four years, Xenophon's Anabasis, Books I and II). This test is to consist in part of questions, in part of simple sentences set for translation into Greek; it may include also translation from Greek into English.

2. Attic prose at sight. Translation at sight of a passage adapted to the proficiency of those who have read not less than 130 Teubner pages of Attic prose. The candidate is expected to show in his translation accurate knowledge of the forms and structure of the language, and an intelligent comprehension of the whole passage.

3. Homer. Ability to translate a passage from some prescribed portion of the Homeric poems (for the next two years, Iliad, Book I and Book II, vv. 1–493), and to answer questions designed to test the candidate's understanding of the passage, as well as questions upon poetic forms, construction, and prosody.

4. Homer at sight. Ability to translate at sight a passage of ordinary difficulty from the Iliad or Odyssey, with the aid of the vocabulary of the less usual words.

5. Composition. Ability to translate into Attic prose a passage of connected English narrative, employing the more common words and constructions of some prescribed text. (For the next four years a candidate will be allowed his choice between a passage based on Xenophon's Anabasis, Books I and II, and a passage based on Xenophon's Cyropædia, Book I, Chaps. I to V, inclusive.)

Subjects 1 and 2 must be offered together. At the examination they will be regarded as a single subject. The same is true of subjects 3 and 4.

NOTE.—Throughout the preparatory course pupils should be constantly guided in proper methods of reading, and should be trained to read the Greek understandingly, as Greek, before attempting to render it into idiomatic English. There should also be constant practice in reading aloud, with due expression, and in hearing the language read.

French:

1. The translation at sight of ordinary nineteenth-century prose.

 It is important that the passages set be rendered into clear and idiomatic English. It is believed that the power of translating at sight ordinary nineteenth-century prose can be acquired by reading not less than four hundred duodecimo pages from the works of at least three different authors. Not more than one half of this amount ought to be from works of fiction. This number of pages is to include not only prepared work, but all sight reading done in class.

2. The translation from English into French of sentences or of a short connected passage, to test the candidate's familiarity with elementary grammar.

 Elementary grammar is understood to include the conjugation of regular verbs, of the more frequent irregular verbs, such as aller, envoyer, tenir, pouvoir, voir, vouloir, dire, savoir, faire, and those belonging to the classes represented by ouvrir, dormir, connaitre, conduire, and craindre; the forms and positions of personal pronouns, the uses of other pronouns and of possessive, demonstrative, and interrogative adjectives; the inflection of nouns and adjectives for gender and number, except rare cases; the uses of articles, and the partitive constructions.

NOTE.—Pronunciation should be carefully taught and pupils be trained to some extent to hear and understand spoken French. The writing of French from dictation is recommended as a useful exercise.

German:

1. Translation at sight of a passage of easy prose containing no rare words. It is believed that the requisite facility can be acquired by reading not less than two hundred duodecimo pages of simple German.
2. The rudiments of grammar, and especially these topics: the declension of articles, adjectives, pronouns, and such nouns as are readily classified; the conjugation of weak and of the more usual strong verbs; the commoner prepositions; the simpler uses of the modal auxiliaries; the elementary rules of syntax and word order. The proficiency of the applicant will be tested by questions on the above topics and by the translation into German of simple English sentences.

NOTE.—Practice in pronunciation, in writing German from dictation, and in the use of simple German phrases in the class-room is recommended.

History:

1. American history (the equivalent of the matter contained in Johnston's, or Scudder's, or McMaster's text-book).
2. English history (the equivalent of the matter contained in Gardiner's, or Oman's, or Montgomery's text-book).

Advanced Mathematics:

1. Algebra: quadratic equations of one and two unknown quantities and equations solved like quadratics, ratio and proportion, variation, arithmetical and geometrical progressions, the principle of undetermined

coefficients, including its application to series and partial fractions, variables and limits, convergency of series, the binomial theorem for fractional and negative exponents, logarithms, including the exponential and logarithmic series, permutations, and combinations. [Equivalent of these topics as treated in the College Algebra of Wentworth or Wells.]

2. Geometry: volumetric and spherical geometry. [Equivalent of Davies's Legendre, Books VI–IX.]

Physics:

1. The equivalent of Hall and Bergen's text-book of physics.
2. An approved laboratory course of at least forty experiments actually performed at school by the candidate.

To fulfil the requirement of laboratory work in physics a candidate must submit at the time of the entrance examination in physics a note-book containing a record of the experiments which he has performed. The note-book must bear the endorsement of the teacher certifying that it is a true record of the candidate's work. Such note-books, when sent by mail, should be addressed to the Department of Physics of Columbia University, and should be accompanied by information as to *whether the candidate seeks admission to the "College" or to one of the "Schools of Applied Science."*

Chemistry:

1. The non-metallic elements, as usually given in high-school text-books.
2. An approved laboratory course of at least forty experiments actually performed at school by the candidate, as given in Remsen's, or Armstrong and Norton's laboratory manuals.

In connection with the examination in chemistry a note-book, similar to that described under the requirement in physics, will be required.

Botany:

1. The equivalent of Bergen's text-book of botany.
2. An approved laboratory course, involving the detailed examination of not less than forty plants.

In connection with the examination in botany a note-book, similar to that described under the requirement in physics, will be required.

Scheme of Entrance Examinations

11. All candidates must present themselves punctually at quarter after nine A.M. on the first day of the examinations (Monday) if they wish to take any examination on that day; otherwise punctually at the same time on the first day on which they wish to take an examination.

Monday

10–12:30....	Elementary algebra Advanced algebra
2– 4:00....	Plane geometry Solid geometry

Tuesday
9:30–12....Latin
1:30–3:30....French
4–5:30....Botany
Wednesday
9:30–12....Greek
1:30–3:30....German
4–5:30....Chemistry
Thursday
9:30–12....English
1:30–3:30....History
4–5:30....Physics

Preliminary Examinations

12. A candidate duly enrolled, who has filed the required certificate from his principal teacher, may, at the appointed examination time in June of the year preceding his admission to the Freshman class, but not at any other time, be examined on certain portions of the foregoing requirements.

The only subjects which may be offered by a candidate at the preliminary examination are the following:

English: Reading and composition.

Elementary Mathematics:

The preliminary examination in algebra will include and be confined to the following topics: factors, common divisors and multiples, fractions, equations of the first degree with one or more unknown quantities, evolution, the doctrine of exponents, and radicals.

Candidates may offer plane geometry at the preliminary examination.

Latin: Any one, or any two, but not all of the subjects 1, 2, 3.

Greek: Subjects 1 and 2. These subjects must be offered together. At the examination they will be regarded as a single subject.

French.
German.
History.
Physics.
Chemistry.
Botany.

After such preliminary examination, applicants will not be allowed to present themselves for examination upon the remaining requirements for admission until the entrance examination of the following year, except with the permission of the Committee on Admissions, to be obtained during the month of June.

Final Examinations

13. A candidate who has presented himself in a previous year for a preliminary examination, or one who has taken an examination in a previous year without securing admission, should present himself for a *final examination*. Such a candidate may divide his final examination in whatever manner he may wish between June and September.

Full Examinations

14. A candidate who has not previously presented himself for examination, and who in a single year offers himself for examination in all the requirements for admission, is said to take a *full examination*. Such a candidate may divide his examination in whatever manner he may wish between June and September.

Advanced Entrance Examinations

15. Properly qualified students are advised to present themselves, in June or September, for examination in any of the following prescribed studies of the Freshman year: Latin A or B, Greek B, Mathematics A, Rhetoric A, French A, German A, or in the special requirement for admission to Rhetoric 8 (see courses announced by Department of Rhetoric and English Composition).

Students passing a satisfactory examination in any of these courses will be permitted to elect in its place any higher course in the department for which the prescribed course is the only pre-requisite. For the ground covered by advanced entrance examinations in all subjects, candidates are referred to the departmental statements, or to the heads of the respective departments.

Examinations outside of New York

16. The Committee on Admissions is authorized to make arrangements whereby examinations for admission to the Freshman class may be held, when applied for, in other cities than New York. Such examinations are permitted only at the appointed examination time in June, and must be held at schools or other institutions previously designated by the Committee on Admissions. Applications to hold such examinations must be made not later than May 15 of the same year.

Admission to Freshman Class upon Certificates

17. Columbia College accepts, in lieu of its entrance examinations, no credentials of any sort except the Regents' Academic Diploma * and the certificates of universities and colleges in good standing, and these credentials are accepted only for the ground which they specifically cover.

All certificates offered in lieu of entrance examinations must be sent to the chairman of the Committee on Admissions, at least one week before the first day of the entrance examinations. The names of those candidates whose certificates are accepted in whole or in part will be posted on the Bulletin Board at least one day in advance of the beginning of the examinations.

* Every Regents' Academic Diploma is considered as covering the entrance requirement in English. No Regents' Academic Diploma will be accepted in lieu of the entrance examination in French unless it covers the complete three-years high-school course in French recognized by the Regents. Similarly, no Regents' Academic Diploma will be accepted in lieu of the entrance examination in German unless it covers the complete three-years high-school course in German. A Regents' Academic Diploma, to be accepted in lieu of all parts of the examination in Latin or of the examination in Greek, must specifically cover, among other things, sight reading and prose composition. A Regents' Academic Diploma will not be accepted for the laboratory work in Physics, Chemistry, or Botany.

The separate pass cards, the Academic Equivalent Certificate, and the several other certificates issued by the Regents of the State of New York, are not accepted in lieu of examinations.

The certificates of the preparatory or high-school departments of universities and colleges are not accepted.

Candidates shall take the regular entrance examinations in the subjects in which their certificates are not deemed adequate.

Report of Entrance Examinations

18. The Committee on Admissions will report to the Dean not later than one week after the conclusion of the entrance examinations in June the names of those candidates who, having passed a satisfactory examination, may be admitted with or without conditions, of those who must present themselves for re-examination in September, and of those who have been rejected.

The Committee on Admissions will report to the Dean not later than one week after the conclusion of the entrance examinations in September the names of those candidates who, upon a final showing, may be admitted with or without conditions, and of those who have been rejected.

Except for reasons of weight, satisfactory to the Committee on Admissions, the results of an entrance examination will not be allowed to stand to the credit of a candidate for a longer period than sixteen months.

Admission to Advanced Standing

19. Candidates for admission from other colleges, and those desiring to be admitted to advanced standing on examination, must make application in writing to the Committee on Admissions. Proper blanks for the purpose may be obtained from the Bursar. The application should be made at least one week before the first day of the September entrance examinations.

Each candidate for admission to advanced standing must show that he has attained proficiency in the equivalent of

1. The requirements for admission to the Freshman class.
2. All the prescribed studies already pursued by the class to which he seeks admission.
3. As many elective studies as he would have pursued if he had entered the class at the beginning of the Freshman year.

A candidate may be admitted notwithstanding deficiencies in some of these studies, but no candidate will be recommended for the A.B. degree until he shall have brought all his studies up to the point required for that degree.

Each candidate from another college is expected to furnish official statements of his record in his various college studies, and letters or other evidence showing the opinion of his instructors in regard to his scholarship and character. He should also submit a catalogue or announcement of the college that he leaves, in which are plainly marked every requirement for admission and every course of instruction for which he has received credit.

No applicant will be allowed to enter the Senior class as a candidate for the degree of Bachelor of Arts after October 15th in any year.

Conditions and Probation

20. Students admitted conditionally to the Freshman class at the beginning of the academic year will be held under probation till the end of the first half-year.

Not later than Tuesday of the second week following the Christmas holidays, the head of each department in which students on probation attend will make to the Dean a special report of progress in the case of each such student. The Dean will, as soon as practicable, and not later than the end of the half-year, decide as to each student on probation whether he shall be dropped from the roll of the College, or have his period of probation extended.

If any member of the Freshman class shall receive at the mid-year or the concluding examination a grade in scholarship of C, or higher, in any department, this grade will be regarded as removing any entrance condition that may be recorded against him in that department.

Any member of the Freshman class conditioned at entrance in a department in which he subsequently pursues no course must make good that condition at a subsequent examination.

21. No student will be admitted to the Sophomore class until he shall have satisfied all his entrance conditions.

Special Students

22. Special courses of study are offered to young men, of proper age and character, who wish, without reference to any degree, to make a serious study of any special subject, or group of subjects. Each candidate for admission to such special courses must make application in writing, and show evidence of good character and of special fitness for each study that he wishes to pursue. Proper blanks for the purpose may be obtained from the Bursar. The application should be made at least one week before the first day of the entrance examinations.

Each candidate will be examined at the time of the entrance examinations

1. In English composition, and such other studies as the Committee on Admissions may direct.
2. In each special study which he desires to pursue, to ascertain whether he is competent to enter upon the course.

In general, it is required that candidates who do not come from another college shall take the regular entrance examinations (if there are any) in each department in which they wish to pursue courses.

Except for reasons of weight, satisfactory to the Committee on Admissions, no one will be received as a special student who is less than eighteen years of age, or has, within ten months of the time of his application, been rejected as a regular student, or has, within that time, become deficient as a regular student. No one will be admitted as a special student who wishes merely to pursue elementary subjects included among the requirements for admission to the College or to the Schools of Applied Science.

Registration and Matriculation

23. All students are required to present themselves at the office of the Bursar for registration on the Wednesday, Thursday, Friday, or Saturday of the week

preceding the first Monday in October of each year. Enrolment at a later date is permitted only to those who obtain consent of the Dean, good cause for the delay having been shown. The presence of all students is required on the day immediately following the close of all vacations and recesses.

After filling in the blank provided for the purpose, students must present the same, with the proper fee, to the Bursar, who will issue a receipt, without which they will not be permitted to attend any of the exercises.

Fees

(See page 16)

Scholarships

(See page 25)

Examinations in Course

24. Two examinations of all the classes are held every year, one beginning on the last Monday in January, and the other on the Monday of the third week preceding Commencement. The former is called the mid-year examination ; the latter, the final examination. Any department may omit the mid-year examination in some or all of its courses for Seniors, notice of such intended omission to be sent to the Dean on or before December 1 preceding. It is the privilege of any department to announce that, in some or all of its courses, the results of the mid-year examination will be tentative only, the grades given after the final examination applying to the whole year.

25. Any student who shall have been absent from more than ten per cent. of the exercises in any course during a single half-year shall not be entitled to examination in that course.

Every student is expected and required to keep an account of his absences, and, should he exceed the limit allowed in any course, he must present to the Dean, during the week preceding the stated examination, satisfactory explanation of all his absences, or be debarred from the examination.

(*a*) A student absent from a mid-year or final examination in any course will be accounted deficient in that course.

(*b*) A student reported, at the close of the year, in grade F (see Section **27**) in more than one course, or in grade F in one course and in grade D in more than two other courses, will be dropped from the roll of his class.

(*c*) A student dropped from the roll of his class will not be permitted to attend any of the exercises of the said class without the consent of the Dean, given for reasons of weight ; but he may enter the next succeeding class and pursue the course or courses in which his deficiency exists, or, in case of elective courses and with the consent of the Dean, other course or courses equivalent thereto in time, and present himself for examination in such course or courses with that class. Upon failing with that class, in any repeated or substituted course, his name will be dropped from the roll of the College. No student dropped from the roll of his class or of the College under the provisions of this section will be accepted as a special student.

(*d*) No student will be promoted to the Junior class who is deficient in any course of the Freshman class ; and no student will be promoted to the Senior class who is deficient in any course of the Sophomore class.

26. Examinations to enable deficient or debarred students of all classes to make good their deficiencies, are held within the two weeks immediately preceding the opening of the College in October ; and in addition, for members of the Senior class only, during the first week in May.

Examinations at times other than here specified are not held except upon order of the Dean, given for reasons of weight.

Proficiency and Deficiency

27. At the close of every half-year, and after the stated examination has been held, each officer of instruction will report to the Dean a list of all the students in his several courses, classifying them in five grades, namely, A, B, C, D, F, according as their work in the course has been excellent, good, fair, poor, or a failure. Each student's record, up to his Senior year, will be transmitted to his parent or guardian by the Dean at the close of each half-year.

28. Students reported in grade F in any course will be deemed deficient in that course, and required to pass another examination in it at the time fixed for the special examination for debarred and deficient students, unless, for reasons of weight, the Dean shall otherwise direct. (See Section 26.)

29. Students reported in grade D in any course must be warned by the instructor in charge thereof that their work is so unsatisfactory that, unless improved, it may result in their being found deficient at the close of the second half-year.

30. Students reported in grade D in two or more courses will be warned by the Dean that their record is not satisfactory, and that, unless improved, it may be found necessary to require them to take the courses a second time or to substitute other courses.

31. A student reported in grade D in four or more courses at the close of the year, and not reported in grade A or B in any course, or a student reported in grade F in one course and in grade D in two other courses, will not be permitted to go on with his class without the consent of the Dean, given for reasons of weight, nor will he be accepted as a special student ; but he may enter the next succeeding class.

32. (*a*) No scholarship, prize, or other honor will be awarded in any course or department to any student who is reported in a grade below C in any other course or department during the year in which he is a candidate for such scholarship, prize, or honor.

(*b*) Each student to whom honors may be awarded in any department will receive, immediately after Commencement, a certificate of such award, under the seal of the College and bearing the signature of the President and the Dean.

GENERAL HONORS

33. *General Honors* are of two grades, Highest General Honors and General Honors, and are assigned not later than July 1st of each year, without application, to students who are not holders of scholarships, under the following conditions :

Highest General Honors are awarded to students whose work in the previous college year entitles them to high academic distinction.

General Honors are assigned to students of marked excellence who have not won Highest General Honors.

DEPARTMENTAL HONORS

34. Departmental Honors are awarded at the end of the second year, the end of the third year, and the end of the course, and are known respectively as Sophomore Honors, Junior Honors, and Final Honors.

Sophomore Honors are awarded in Classics, Germanic languages and literatures, Romance languages and literatures, English, rhetoric and English composition, and mathematics.

Junior Honors are awarded in classics, Germanic languages and literatures, Romance languages and literatures, English, rhetoric and English composition, literature, mathematics, physics and chemistry, and in history.

Final Honors are awarded in classics, Germanic languages and literatures, Romance languages and literatures, English, rhetoric and English composition, literature, mathematics, physics and chemistry, zoölogy and botany, history, economics and social science, and in philosophy.

For particulars, see special announcement of the College.

Prizes

(See page 28)

Graduation Theses

35. Each candidate for graduation shall, on or before the 15th of December with the approval of the instructor in charge of one of the courses in which he has studied, or is studying, select for thesis, or essay, some subject connected with that course, and communicate his selection to the Dean; under such guidance and with such help as the instructor may deem it right to give him, he shall complete the thesis, or essay, and submit it to the Dean on or before April 2d of each year. This thesis, or essay, shall be judged by the head of the department in which the chosen subject lies; and the judgment shall be passed upon the merit of the thesis, or essay, both in its substance and in its style, and shall be reported in writing by the head of the department to the Dean. In his return to the Dean upon a graduation thesis the examining officer shall report:

1. A grade as to substance (**27**);
2. A grade as to style;
3. A judgment upon its merits as a whole.

Each thesis shall contain, as appendix, a list of authorities that have been used. It shall contain at least two thousand (2000) words, unless there be special reasons for the reduced length; and it shall be retained as the property of the College, in charge of the Librarian.

If any student fail to comply with these requirements, or if his thesis, or essay, be rejected, he shall not be recommended to the Trustees for graduation.

The graduating theses must be written on firm, strong paper, eleven by eight and one half inches in dimensions, and a space of one and one half inches on the inner margin must be left free from writing.

Honorable Dismission

36. An honorable discharge shall always be granted to any student in good standing, who may desire to withdraw from the College; but no student under the age of twenty-one years shall be entitled to a discharge without the assent of his parent or guardian, given in writing to the Dean.

Students are requested, in case of withdrawal during the academic year, to file a notice thereof at the office of the Bursar, who will on application provide the blank form for this purpose.

COURSE OF STUDY

The attention of students is called to the following regulations relating to the selection of studies and to the requirements for the degree of Bachelor of Arts.

37. In making out their list of electives, students are confined to the courses given as open to them in the departmental statements and in the announcement of the College. They must avoid conflicts of courses at the same hour, and for that purpose should consult the hour scheme.

Students just entering must give notice, at the time of registration, of the elective courses chosen by them.

Students in the College are required, on or before May 20th, to give notice to the Dean, upon blanks to be procured at the office of the Bursar, of their choice of elective courses. Special attention is asked to this requirement, in order to avoid confusion and possible embarrassment to the student.

Freshmen are required to be in attendance at the Gymnasium on Monday and Wednesday at 11.30; Sophomores, at 12.30.

38. The Dean and the head of the department concerned may permit any study prescribed for the degree of Bachelor of Arts to be taken as an elective in an earlier year than that for which it is set down below.

39. The curriculum requires an elementary knowledge of *both* French and German of all candidates for the degree of Bachelor of Arts. In the case of students who offer Greek at entrance, one modern language is required for admission, and a three-hour course in the second modern language is prescribed during the Freshman year.

40. One approved course, covering a year, in a natural science, including laboratory work, must be taken by every candidate for the degree either before entrance or while in College. The entrance requirement in natural science satisfies this condition. Laboratory hours are counted for one half the number of hours actually occupied.

41. Changes in elective courses can be made only by permission of the Dean. The like permission is necessary to entitle a student to take more than four hours of work, not including laboratory work or drawing, on the same day, and to take more than six hours of work weekly in any department.

42. Elective courses are offered subject to withdrawal if elected by fewer than three students.

43. Table of Prescribed and Elective Studies:

GROUP I—*Students entering on Greek and French*

Freshman Year

Prescribed (12 hours): Latin A or B, or Greek B
German A
Mathematics A
Rhetoric A

Elective (3 hours): Chemistry 1
English 1
French 1
German 1
History A
Latin A or B, or Greek B,—*i. e.*, Latin, if the student has taken Greek as his prescribed ancient language, or *vice versa*
Physics 1

Sophomore Year

Prescribed (7 hours): History A, unless taken as an elective in the Freshman year
Rhetoric B
One of the following: Botany 1, Chemistry 1, or Physics 1, unless the student has elected Chemistry 1 or Physics 1 in his Freshman year

Elective (9 hours): A Sophomore may take courses designated as open to him in the departmental statements

GROUP II—*Students entering on Greek and German*

Freshman Year

Prescribed (12 hours): Latin A or B, or Greek B
French A
Mathematics A
Rhetoric A

Elective (3 hours): Chemistry 1
English 1
German 2
History A
Latin A or B, or Greek B,—*i. e.*, Latin, if the student has taken Greek as his prescribed ancient language, or *vice versa*
Physics 1

Sophomore Year

Prescribed (7 hours): History A, unless taken as an elective in the Freshman year
Rhetoric B
One of the following: Botany 1, Chemistry 1, or Physics 1, unless the student has elected Chemistry 1 or Physics 1 in his Freshman year

Elective (9 hours): A Sophomore may take courses designated as open to him in the departmental statements

GROUP III—*Students entering on Natural Science and three of the following: French, German, History, Advanced Mathematics*

Freshman Year

Prescribed (6 hours)*:	Latin A or B Rhetoric A
Elective (9 hours):	Chemistry 1 English 1 French 1 German 1, 2 Greek A History A Mathematics 1, 2 Mechanical Engineering 1 Physics 1, 2

Sophomore Year

Prescribed (4 hours):	History A, unless taken as an elective in the Freshman year Rhetoric B
Elective (12 hours):	A Sophomore may take courses designated as open to him in the departmental statements

ALL GROUPS

Junior Year

Prescribed (3 hours):	Philosophy A (first half-year), unless taken as an elective in the Sophomore year; Political Economy A (second half-year), unless taken as an elective in the Sophomore year: Rhetoric C
Elective (12 hours):	A Junior may elect courses designated as open to him in the departmental statements

Senior Year

A Senior is required to take fifteen hours a week of elective courses, and may elect courses designated as open to him in the departmental statements. The various courses comprising the first-year work in the School of Law, the School of Medicine, and the School of Architecture, and also those comprising the first- and the second-year work in the School of Mines, the School of Chemistry, and the School of Engineering, are open, as electives, to students in the College who have become such not later than the beginning of the Junior year. By a judicious arrangement of his course, such a student may qualify himself to enter the second year in the School of Law, the School of Medicine, or the School of Architecture, or the third year in the Schools of Mines, Chemistry, or Engineering, at the completion of his collegiate course for the degree of Bachelor of Arts.

* Students not offering French at entrance must take French A; those not offering German must take German A; those not offering advanced mathematics must take Mathematics A. All such students will thus have nine hours of prescribed work and six of elective work.

To students who have taken the courses noted as pre-requisites, elective courses are open in the following numbers, details of which will be found in the departmental statements of this catalogue and in the special announcement of the College:

44. To Sophomores:

Botany One course
Chemistry Nine courses
Civil Engineering One course
Economics Two courses
English Language and Literature Two courses
Geography Two courses
Geology Three courses
German Four courses
Greek Four courses
History Five courses
Latin Three courses
Mathematics Three courses
Mechanical Engineering One course
Mechanics Two courses
Music Five courses
Philosophy One course
Physics Four courses
Rhetoric and English Composition Two courses
Romance Languages:
French Two courses
Italian One course
Spanish One course

45. To Juniors:

Architecture Seven courses
Botany Six courses
Chemistry Nine courses
Civil Engineering Three courses
Economics Three courses
English Language and Literature Eight courses
Geography Two courses
Geology Four courses
German Eight courses
Greek Six courses
History Four courses
Indo-Iranian One course
Latin Five courses
Literature One course
Mathematics Five courses
Mechanical Engineering Seven courses
Mechanics Two courses
Mineralogy Four courses
Music Five courses
Philosophy One course
Physics Twelve courses
Psychology Four courses
Rhetoric and English Composition Five courses
Romance Languages:
French Three courses
Italian One course
Spanish Two courses
Semitic Languages Nine courses
Zoölogy One course

46. To Seniors:

Anthropology Two courses
Architecture Seven courses
Astronomy Three courses
Botany Eight courses
Chemistry Ten courses
Civil Engineering Three courses
Economics Six courses
English Language and Literature Eight courses
Geography Two courses
Geology Four courses
Germanic Languages:
Dutch One course
German Eleven courses
Germanic Philology One course
Gothic One course
Scandinavian Three courses
Greek Nine courses
History Seven courses
Indo-Iranian Three courses
Latin Twelve courses
Literature Two courses

Mathematics.....Six courses
Mechanical Engineering..Ten courses
Mechanics.....Four courses
Mineralogy.....Seven courses
Music.....Five courses
Philosophy, Psychology, and Education:
Education.....Twenty-six courses
Philosophy.....Nine courses
Psychology.....Four courses
Physics.....Twelve courses
Rhetoric and English Composition.....Six courses
Romance Languages:
French.....Eleven courses
Italian.....Three courses
Romance Philology....One course
Spanish.....Two courses
Semitic Languages.....Ten courses
Sociology.....Two courses*
Zoölogy.....Three courses

47. For any further information the special announcement of the College may be consulted.

* These are included under Economics.

REGISTER OF STUDENTS

SENIOR CLASS

Alsberg, Henry Garfield.....(Mhtn) New York City
Bingham, Lee Mansfield.....(Mhtn) New York City
Block, Samuel John.....(Mhtn) New York City
Bowman, James Floyd.....Montclair, N. J.
Boyesen, Hjalmar Hjorth, 2d.....Southampton, N. Y.
Brooks, Roelif Hasbrouck.....Poughkeepsie, N. Y.
Browne, John.....(Mhtn) New York City
Brueninghausen, Herbert Washington.....(Bklyn) New York City
Cane, Melville Henry.....(Mhtn) New York City
Clapp, Walter Nicholas.....Hempstead, N. Y.
Clark, Harrison, Jr.....(Mhtn) New York City
Clark, William Irving, Jr.....(Mhtn) New York City
Coan, Philip.....(Mhtn) New York City
Coerr, Frederick Dan Huntington.....(Mhtn) New York City
Coffee, Rudolph Isaac.....Oakland, Cal.
Cohn, Alfred Einstein.....(Mhtn) New York City
*Davis, Michael Marks, Jr.....(Mhtn) New York City
de Mille, William Churchill.....Pompton, N. J.
Dixon, Sidney Harry.....(Br) New York City
Dixon, William Henry.....(Mhtn) New York City
Duden, William.....(Br) New York City
Duffield, Roy Farrell.....(Q) New York City
Dunbar, David Owen.....Centre Point, Ia.
Durham, Roger.....(Mhtn) New York City
Edwards, James Alexander.....(Mhtn) New York City
Elmore, Wilbur Bruce.....(Mhtn) New York City
Erskine, John.....Weehawken, N. J.
Fackenthal, Joseph Diehl.....(Bklyn) New York City
Finnigan, James Joseph.....(Mhtn) New York City
Fiske, William Mead Lindsley, Jr.....(Bklyn) New York City
*France, Melville Jefferson.....(Bklyn) New York City
Francis, Claude de La Roche.....(Mhtn) New York City
Gallatin, Goelet.....(Mhtn) New York City
Gardiner, Philip Parkhurst.....Garden City, N. Y.
Giddings, Henry Starr.....(Mhtn) New York City

* Also a candidate for the Secondary Diploma (*Teachers College*).

Gould, John Wesley.....(Bklyn) New York City
Gregory, William King.....(Mhtn) New York City
Harrison, Henry Sydnor.....(Bklyn) New York City
Hawks, Everett Merl.....Tarrytown, N. Y.
Hoadley, Harwood.....(Mhtn) New York City
Hoffman, Irving Morehouse.....Mount Vernon, N. Y.
Howe, Joseph Parkhurst.....(Mhtn) New York City
Hull, Robert Chipman.....(Bklyn) New York City
Irving, Pierre Frederic.....Glencoe, Md.
Jones, Frederick.....(Mhtn) New York City
Kellock, Harold Anderson.....(Mhtn) New York City
Kelly, David Frederick.....(Mhtn) New York City
Kemp, William Cullen Bryant.....(Mhtn) New York City
Kidde, Frank.....Montclair, N. J.
Knapp, James Rintoul.....(Mhtn) New York City
Krickl, Maurice.....(Mhtn) New York City
Leale, Loyal.....(Mhtn) New York City
Lesinsky, Leo.....(Mhtn) New York City
Lowenstein, Oscar.....(Mhtn) New York City
Lum, Ralph Emerson.....Chatham, N. J.
McKenna, James John, Jr.....(Mhtn) New York City
McMurray, Fred Russell.....Normal, Ill.
Mather, Herbert Rowe.....(Mhtn) New York City
Maxwell, William Henry, Jr.....(Mhtn) New York City
Meeker, Arthur Youle.....Glen Ridge, N. J.
Mehler, Albert Joseph.....(Mhtn) New York City
Moffett, Samuel Erasmus.....(Mhtn) New York City
Moore, William Underhill.....(Mhtn) New York City
Muirheid, John.....So. Amboy, N. J.
Nelson, Giffard Arthur.....(Bklyn) New York City
*Neugroschl, Abraham Elijah.....(Mhtn) New York City
Newborg, Leo David.....(Mhtn) New York City
Norman, Mark Wilbur.....Darien, Conn.
*O'Brien, Thomas Edward.....(Bklyn) New York City
Ogden, Charles Jones.....(Mhtn) New York City
Parker, Gordon.....(Bklyn) New York City
Pollard, David Henry.....Winnipauk, Conn.
Quackenbos, George Payn.....(Mhtn) New York City
Raiman, Robert Insall..... (Bklyn) New York City
Raymond, Edward Holman, Jr.....Summit, N. J.
St. Clair, Harry Hull, Jr.....(Mhtn) New York City
Schafer, Algernon Sydney.....(Mhtn) New York City
Seguine, Edward Murray.....(R) New York City
Simons, Thomas.....Yonkers, N. Y.
Slade, Harvey Shattuck.....Yonkers, N. Y.
*Smith, Alexander Godfrey.....(Bklyn) New York City

* Also a candidate for the Secondary Diploma (*Teachers College*).

Stoddart, Charles William.....Yonkers, N. Y.
Strunsky, Simeon.....(Mhtn) New York City
Tinker, Louis Clark.....Newark, N. J.
Turner, Wallis Smythe.....(Mhtn) New York City
Walter, Edwin Joseph.....(Mhtn) New York City
Ward, Sylvester L' Hommedieu, Jr.....White Plains, N. Y.
Weinstein, Mayer Joseph.....(Mhtn) New York City
Wetherhorn, Henry.....Charleston, S. C.
Whittaker, Thomas Shirley.....(Mhtn) New York City
Williams, John Nelson.....(Br) New York City
Woodson, Charles Whitehead.....Salisbury, N. C.
Wortmann, Martin.....(Mhtn) New York City

Senior Class.....93

JUNIOR CLASS

Armstrong, David.....Rahway, N. J.
Baker, Edward Wood.....(Mhtn) New York City
Bandler, Clarence Garfield.....(Br) New York City
Bandler, Maurice Edward.....(Mhtn) New York City
Barker, Stephen.....(Mhtn) New York City
Baxter, Frank Edward.....(Mhtn) New York City
Beers, William Francis, Jr.....Galveston, Texas
Bensel, William Aitken.....(Mhtn) New York City
Boehm, August Abraham.....(Mhtn) New York City
Boese, William Henry.....Poughkeepsie, N. Y.
Bogue, Morton Griswold.....(Mhtn) New York City
Bonsall, Victor Fitch Mount.....(Mhtn) New York City
Boone, Elliott Williams.....(Mhtn) New York City
Bowdish, Lewis.....(Br) New York City
Bowne, Samuel Winter.....Tarrytown, N. Y.
Buchler, William Paul.....(Mhtn) New York City
Bühler, Joseph Stettenheim.....Columbus, Ga.
Bulkley, Henry Duncan.....(Mhtn) New York City
Burrows, Waters Field.....Elizabeth, N. J.
Byron, Thomas Patrick.....Bradford, Pa.
Cardozo, Michael Hart, Jr.....(Mhtn) New York City
de Beaumont, Victor Ernest.....(Mhtn) New York City
Delgado, Frederick Pearce.....(Mhtn) New York City
Depew, Chauncey Mitchell, Jr.....(Mhtn) New York City
*Donnellan, George Laurence.....(Mhtn) New York City
Dressler, William Bernard.....(Mhtn) New York City
Drucker, Aaron Phinius.....Boston, Mass.
Duden, Herman.....Yonkers, N. Y.
Durham, Knowlton.....(Mhtn) New York City
Eastmond, Charles.....(Bklyn) Now York City

* Also a candidate for the Secondary Diploma (*Teachers College*).

Edwards, Elisha Jay, Jr.....Greenwich, Conn.
Elliman, Kenneth Benbow.....(Q) New York City
Ernst, Arthur Ogden.....(Mhtn) New York City
Esser, Joseph Henry.....Mount Vernon, N. Y.
Fenet, Joseph Porter.....Paris, Texas
Forbes, Charles Savage.....(Mhtn) New York City
Forsch, Albert.....(Mhtn) New York City
Foster, George Kenyon.....Normal, Ill.
Frank, Milton L.....(Mhtn) New York City
Grace, Walter Henry.....West Malling, England
Grannis, Pierrepont Edwards.....East Orange, N. J.
Grant, Henry Roderick.....(Mhtn) New York City
Gray, James.....(Bklyn) New York City
Gumm, Harris Harold.....Indianapolis, Ind.
*Hanson, Hans Olaf.....(Br) New York City
Havey, Marshal Lawrence.....(Mhtn) New York City
Haydock, Charles Edward.....(Mhtn) New York City
Heimann, Walter James.....(Mhtn) New York City
Heuser, Frederick William Justus.....(Bklyn) New York City
Hogan, Richard.....(Mhtn) New York City
Jackson, John Gillespie.....Middletown, Conn.
Jacocks, Harold Huntington.....(Mhtn) New York City
Johnson, John Barent.....Middletown, Conn.
Keeler, George Beckworth.....(Bklyn) New York City
Kohn, Achilles Hermann.....(Mhtn) New York City
Korn, Harold.....(Mhtn) New York City
Lederer, Allison Michael.....Ridgewood, N. J.
Lorenz, Karl Kumler.....Dayton, Ohio
McKeon, Peter Joseph.....(Mhtn) New York City
Mackay, Joseph Wild.....(Bklyn) New York City
Mapes, Clive Spencer.....(Mhtn) New York City
Mattice, Harold Allison.....(Br) New York City
Meyer, Rutherford Birchard.....(Mhtn) New York City
Mitchell, Edward Bedinger.....(Q) New York City
Moore, James Bly.....Nanuet, N. Y.
Mosenthal, Walter Joseph.....(Mhtn) New York City
Nash, Stephen Payn.....(Mhtn) New York City
Palmer, Archie Wheeler.....East Orange, N. J.
Pegram, Robert Bruce.....(Mhtn) New York City
†Ross, Herbert Weed.....Newark, N. J.
St. George, Albert Harrington.....(Br) New York City
Senftner, Alfred Dwight.....(Mhtn) New York City
Shepard, Woolsey Adams.....(Mhtn) New York City
Small, Herbert Fedor.....(Mhtn) New York City
Smith, John Boyce, Jr.....(Mhtn) New York City

* Also a candidate for the Elementary Diploma (*Teachers College*).
† Also a candidate for the Secondary Diploma (*Teachers College*).

Southack, John William.....(Mhtn) New York City
Spiro, Walter Jesse.....(Mhtn) New York City
Stevenson, Maxwell.....(Mhtn) New York City
Stewart, Vernon Champney.....Canton, Ill.
Tavenner, Eugene.....Parkersburg, W. Va.
Van Cise, William Marsh.....Summit, N. J.
Ward, Egbert.....White Plains, N. Y.
White, Robert Hooper.....(Q) New York City
Wise, Harry Morris.....(Mhtn) New York City
Woodruff, Lorande Loss.....(Mhtn) New York City

Junior Class.....85

SOPHOMORE CLASS

Atkins, George Chew.....Bayonne, N. J.
Bancroft, James.....Winchester, Mass.
Bartow, Clarence Whittemore.....(Q) New York City
Bassett, James.....(Mhtn) New York City
Blumlein, Maurice.....(Mhtn) New York City
Bradley, Allan Beach Arnold.....(Mhtn) New York City
Brower, Farrand Dodd.....(Mhtn) New York City
Bruce, Edward Bright.....Yonkers, N. Y.
Budington, Ernest Gunton.....(Bklyn) New York City
Bullard, Oscar.....Helena, Montana
Carey, Ralph Whitney.....(Mhtn) New York City
Carter, Jarvis Pomeroy.....(Mhtn) New York City
Cherouny, Arthur Ernest.....(Mhtn) New York City
Clark, Franklin Mortimer.....(Mhtn) New York City
Colie, Edward Martin, Jr.....(Mhtn) New York City
Cowen, Harry Gabriel.....(Mhtn) New York City
Danton, George Henry.....Lyndhurst, N. J.
Duden, Frederic Henry.....(Br) New York City
Dufourcq, Raoul Geer.....(Mhtn) New York City
Ehrmann, Albert.....(Mhtn) New York City
Faile, Kenneth Crane.....(Mhtn) New York City
Falconer, Bruce McLean.....(Mhtn) New York City
Fisk, Clinton Earle.....Jersey City, N. J.
Fitch, John Knowles.....Passaic, N. J.
Gerster, John Carl Arpad.....(Mhtn) New York City
Giles, John Reston.....(Mhtn) New York City
Glenney, Walter Lester.....Plainfield, N. J.
Goff, John William, Jr.....(Mhtn) New York City
Gookin, Warner Foote.....(Mhtn) New York City
Haas, George Christian Otto.....(Mhtn) New York City
Haberman, Julius Victor.....(Mhtn) New York City
Halsey, Francis Reboul.....(Q) New York City
Halsey, Harold Van Wyck.....(Q) New York City

Halstead, Kenneth Burt (Bklyn) New York City
Harper, James, Jr. (Mhtn) New York City
Harris, Henry Samuel (Mhtn) New York City
Harrison, Julian Collier (Bklyn) New York City
Hays, Arthur Garfield (Mhtn) New York Clty
Hellman, Alfred Meyer (Mhtn) New York City
Heroy, James Harold (Mhtn) New York City
Hincks, Robert Beresford Long Branch, N. J.
Hogan, Thomas (Mhtn) New York City
Holland, Harry Steers (Mhtn) New York City
Hopkins, Joseph Gardner (Bklyn) New York City
Hunt, Perry Dexter De Wittville, N. Y.
Huntting, George Hammond (Bklyn) New York City
Hutton, Arthur Lefferts (Mhtn) New York City
Iglehart, Charles Wheeler Newburgh, N. Y.
Jackson, Roland Pearce (Mhtn) New York City
Jenkins, Burke Pritchard (Mhtn) New York City
Johnson, Homer Sturtevant Detroit, Mich.
Kaufman, Louis René Brookside, N. J.
Kelly, Richard (Mhtn) New York City
Langs, John Pierce Niagara Falls, N. Y.
La Roche, Philip Bevan, Jr. (Mhtn) New York City
Laurence, Alfred Stratton (R) New York City
Lawson, William Wheelock (Mhtn) New York City
Ledoux, Louis Vernon (Mhtn) New York City
Lee, Eliot (Mhtn) New York City
Le Fevre, Francis Edward Low Point, N. Y.
Lewy, Harry Meyer Galveston, Texas
Lieb, Charles Christian (Mhtn) New York City
Littell, Robert Jones Summit, N. J.
McColgan, Joseph Thomas (Mhtn) New York City
MacIntyre, Clifford Burnett (Mhtn) New York City
McWhood, James Kemlo Newark, N. J.
Mahan, Lyle Evans (Mhtn) New York City
Meeks, Clarence Gardner Union, N. J.
Merrell, Howard Brown Upper Montclair, N. J.
Meyers, Reuben Alfonso (Mhtn) New York City
Nesbit, William Marsiglia (Mhtn) New York City
Ottenberg, Reuben (Mhtn) New York City
Pell, Walden (Mhtn) New York City
Perrine, William Woodward, Jr. (Mhtn) New York City
Potter, Asa Perkins, Jr. (Mhtn) New York City
Potts, Rockhill Brevoort (Mhtn) New York City
Prince, Henry Starr (Bklyn) New York City
Pullich, Otto, Jr. (Mhtn) New York City
Quinn, William Robert (Bklyn) New York City
Rhoades, Lyman, Jr. (Mhtn) New York City

Ringer, Paul Henry.....(Mhtn) New York City
Rosenblueth, Moses Ezekiel.....(Mhtn) New York City
St. John, Theodore Raymond.....Centre Brunswick, N. Y.
Scheuer, Alwin Joseph.....(Mhtn) New York City
Schuster, Edward.....(Mhtn) New York City
Seligsberg, Walter Nathan.....(Mhtn) New York City
Sewall, Frank Houghton.....Jersey City, N. J.
Shoemaker, William Brock.....(Mhtn) New York City
Smith, Deming Spencer.....(Mhtn) New York City
Smith, Henry Kirkland.....Ilion, N. Y.
Smithers, James, Jr.....(Mhtn) New York City
Spence, Harold Tuthill.....(Mhtn) New York City
Spencer, Joseph Whittlesey.....(Mhtn) New York City
Spiegelberg, Sydney Lehman.....(Mhtn) New York City
Stern, Albert.....(Br) New York City
Strebeigh, Robert Lefferts.....(Mhtn) New York City
Sturtevant, Horace Richmond.....(Mhtn) New York City
Taylor, Clinton Tallmadge.....Mount Vernon, N. Y.
Tinker, Edward Larocque.....(Mhtn) New York City
Trask, Henry Keith.....(Mhtn) New York City
Van Kleeck, Chester Marsh.....(Mhtn) New York City
Ward, Gilbert Oakley.....(Mhtn) New York City
Weekes, Arthur Delano, Jr.....(Mhtn) New York City
West, Henry James.....Garnerville, N. Y.
Willis, Reginald Satterlee.....(Mhtn) New York City
Wilson, Stanley Kidder.....(Mhtn) New York City
Winslow, Archibald Spiers.....(Mhtn) New York City
Wise, Henry Edward.....(Mhtn) New York City
Wooster, Floyd Rider.....Walden, N. Y.
Wright, Avery Skinner.....Oswego, N. Y.
Wyman, Arthur Farnsworth.....Bloomfield, N. J.
Yohannan, Malcolm.....(Mhtn) New York City

Sophomore Class.....112

FRESHMAN CLASS

Abbott, Clinton Gilbert.....(Mhtn) New York City
Agate, Frederick Joseph.....Yonkers, N. Y.
Allen, Theodore Henry.....(Mhtn) New York City
Allen, William Fitch.....Oswego, N. Y.
Asch, David.....(Mhtn) New York City
Bacon, Daniel Read.....Goshen, N. Y.
Bambach, George Frederick.....(Mhtn) New York City
Barker, Perceval Martin.....(Mhtn) New York City
Barnes, Nathaniel Waring.....Newburgh, N. Y.
Bartholomew, Robert Bradford.....(Mhtn) New York City
Bates, John Grenville.....Murray Hill, N. J.

Bechert, Alexander Otto.....(Bklyn) New York City
Beekman, Henry Rutgers, Jr.....(Mhtn) New York City
Bigongiari, Dino.....(Bklyn) New York City
Bogue, Frank Tefft.....(Bklyn) New York City
Boisse, Pierre Seth.....(Mhtn) New York City
Boyesen, Algernon Keen.....Southampton, N. Y.
Briggs, Yeoman Rochester, N. Y.
Brinckerhoff, Herbert Corlies.....Mount Vernon, N. Y.
Brussel, Lawrence Maurice.....(Mhtn) New York City
Butler, George Henry.....(Mhtn) New York City
Casamajor, Louis.....(Bklyn) New York City
Coffin, Ralston Roberts.....(Mhtn) New York City
Comstock, William Phillips.....(Mhtn) New York City
Crowell, John Whiting.....(Q) New York City
Dana, Charles Anderson.....(Mhtn) New York City
Davis, Albert.....(Bklyn) New York City
Dickinson, Alfred..... Detroit, Mich.
Dodge, Marcellus Hartley.....(Mhtn) New York City
Dyrsen, Harry Hamman.....(Mhtn) New York City
Earle, Victor de La Montagne.....(Br) New York City
Egner, Arthur Frederick.....Newark, N. J.
Elias, Henry Hart..... .(Mhtn) New York City
Erving, Shirley.....Rye, N. Y.
Falk, Milton A.....(Mhtn) New York City
Fettis, Arthur Erskine.....Norwich, N. Y.
Fink, Colin Garfield.....(Mhtn) New York City
Fisher, Mortimer Levi.....(Mhtn) New York City
Ford, Harold Edward.....(R) New York City
Fort, Jacob Irving.....Newark, N. J.
Gaige, Roscoe Conklin.....Nelson, N. Y.
Geer, Enos Throop.....(Mhtn) New York City
Gilsey, Gardner Ladd.....Good Ground, N. Y.
Goodman, Frank Valentine.....Lockport, N. Y.
Gordon, Hamilton Adair.....(Mhtn) New York City
Gross, Arnold.....(Mhtn) New York City
Haas, Herbert Joseph.....Atlanta, Ga.
Hackett, John Mulford Hyde Park, N. Y.
Harrison, Edmond Jordan.....(Bklyn) New York City
Harrison, Richard Compton.....(Bklyn) New York City
Hays, Harold M.....(Mhtn) New York City
Hendrickson, Charles Le Roy.....(Bklyn) New York City
Hills, William Forrest.....(Mhtn) New York City
Hoffman, Alfred.....(Bklyn) New York City
House, Everett.....Long Branch, N. J.
Hoyt, Russell Pratt, Jr.....Manchester Benn, Vt.
Isaacs, Stanley Myer.....(Mhtn) New York City
Iselin, Lewis.....New Rochelle, N. Y.

Keeler, Howard Allan.....(Mhtn) New York City
Koenig, Edwin Brill.....(Mhtn) New York City
Koenig, Nicholas August.....(Mhtn) New York City
Lefferts, Barent.....(Mhtn) New York City
Lockwood, Samuel Pierson..... Yonkers, N. Y.
Loper, Charles Howard.....Jersey City, N. J.
Loveman, Herbert Spencer.....(Mhtn) New York City
McClure, Arthur John.....(Mhtn) New York City
McCollom, Harold Chaffee.....(Bklyn) New York City
McDonald, James Edward.....(Mhtn) New York City
McLintock, Frederick Seybel.....(Mhtn) New York City
McLintock, Herbert Montgomery.....(Mhtn) New York City
Megrue, Roi Cooper.....(Mhtn) New York City
Menocal, Daniel Ammen.....(Mhtn) New York City
Moses, James Garfield.....Louisville, Ky.
Mulford, Samuel Sherill.....Bridgehampton, N. Y.
Neiman, Leo.....(Mhtn) New York City
Odell, Louis S.....Moravia, N. Y.
O'Loughlin, Gerald Stuart.....(Mhtn) New York City
Orr, Louis Herbert, Jr.....(Mhtn) New York City
Osborn, Charles Whytlaw.....Bellport, N. Y.
Parr, Harry Lilienthal.....Yonkers, N. Y.
Perry, Thomas Lockwood.....(Mhtn) New York City
Pitshke, Edgar Julius.....(Mhtn) New York City
Putnam, Edmund Whitman.....(Mhtn) New York City
Raisbeck, Percival Valentine.....(Br) New York City
Riggs, Lawrason, Jr.....Ridgefield, Conn.
Ropes, I. F. Chapman.....Morristown, N. J.
Rose, Charles Reseau.....South Amboy, N. J.
Ryttenberg, Clarkson Potter.....(Mhtn) New York City
Scharps, Charles Edward.....(Mhtn) New York City
Schramm, Arnold Orestes.....(Mhtn) New York City
Schulman, Robert.....(Bklyn) New York City
Schuyler, Robert Livingston.....(Mhtn) New York City
Seaman, Frederic Cromwell.....(Bklyn) New York City
Seil, Harvey Ambrose.....Perth Amboy, N. J.
Shainwald, Ralph Louis, Jr.....(Mhtn) New York City
Shields, Harold.....Nicholson, Pa.
Simmons, William Alonzo, Jr.....(Mhtn) New York City
Smith, Bert Veitch.....New Rochelle, N. Y.
Smithers, Charles Henry.....(Mhtn) New York City
Snyder, Francis Xavier.....(Bklyn) New York City
Somers, Nelson Lockwood.....Corning, N. Y.
Steeves, Harrison Ross.....(Mhtn) New York City
Strasser, Arthur Lewis.....(Mhtn) New York City
Sutton, George Augustus Keen.....Newark, N. J.
Taylor, John Warner.....Utica, N. Y.

Tellzy, Samuel Abraham.....(Bklyn) New York City
Toussaint, Camille Augustus.....Jersey City, N. J.
Townsend, Henry Clark, Jr.....(Mhtn) New York City
Turnbull, William Fyfe.....Orange, N. J.
Von Sholly, Benjamin Rudolph.....(Q) New York City
Voss, Morris.....(Mhtn) New York City
Warren, Earle.....(Mhtn) New York City
Werner, Arthur.....(Mhtn) New York City
Wolff, Edwin.....(Mhtn) New York City
Wortmann, Albert.....(Mhtn) New York City
Wyatt, Christopher Billopp.....(Mhtn) New York City
Wyckoff, Clarence Johnson.....(Bklyn) New York City
Wyld, Robert Hasbrouck.....Cornwall, N. Y.
Wylie, John Parr.....(Mhtn) New York City
Freshman Class.....119

SPECIAL STUDENTS

Allan, Adrian Russell.....Montclair, N. J.
Bamberger, Sidney Maas.....Salt Lake City, Utah
Bateson, Richard Humphreys.....(Mhtn) New York City
Brown, Alexander McDonald.....Cincinnati, Ohio
Burdick, Henry Hagaman.....Syracuse, N. Y.
Caldwell, Armour.....(Bklyn) New York City
Caldwell, Jean Cook.....(Bklyn) New York City
Clark, Frederick Ambrose.....Cooperstown, N. Y.
Collins, William Major.....(Mhtn) New York City
De Nyse, Rulif Van Nuyse.....(Bklyn) New York City
Dudley, Pendleton.....Troy, Mo.
Duval, Hanson Rawlings.....East Islip, N. Y.
Du Vivier, Joseph.....(Mhtn) New York City
Ely, Addison, Jr.....Ann Arbor, Mich.
Fuller, Léonce Coudert.....(Mhtn) New York City
Futter, Leon Nathan.....(Q) New York City
Gulick, Herbert de Hart.....(Q) New York City
Haas, Jacob Lionel.....Montgomery, Ala.
Hall, Everett Joel.....Passaic, N. J.
Hamaguchi, Rokunasukii.....Tokio, Japan
Johnson, Walter Adams.....(Mhtn) New York City
Kahn, Ely.....(Mhtn) New York City
Kelley, Robert Henry.....Hartsdale, N. Y.
Kelly, John Jerome.....(Mhtn) New York City
Lang, Edward Madison.....(Mhtn) New York City
Lloyd, Ernest Herbert.....(Mhtn) New York City
Lockhart, Edward Vern.....Buffalo, N. Y.
McClelland, George William.....Dobbs Ferry, N. Y.
Masury, John Wesley.....(Mhtn) New York City
Middleton, George.....(Mhtn) New York City

Miles, George Frederic.....(Q) New York City
Milke, Edward E., Jr.....Jersey City, N. J.
Modry, Arthur Sidney.....(Mhtn) New York City
Moore, Heath.....Bayport, L. I.
Mott, Hopper Lenox.....Garden City, N. Y.
Odell, Herbert Roe.....Newburgh, N. Y.
Peters, Harry Twyford.....(Mhtn) New York City
Proctor, David Gould.....(Mhtn) New York City
Reed, Robert Rentoul.....Pittsburgh, Pa.
Rose, William Walter.....South Orange, N. J.
Rossbach, William.....Mount Vernon, N. Y.
Schroeder, Rudolph Carl Theodore, Jr.....Hoboken, N. J.
Shoemaker, Henry Wharton.....(Mhtn) New York City
Siegel, Harold Lawrence.....Salt Lake City, Utah
Stratford, Arthur Chazotte.....Jersey City, N. J.
Veit, J. Nelson.....(Mhtn) New York City
Weekes, Harold Hathaway.....Oyster Bay, N. Y.
Westervelt, Leonidas.....(Mhtn) New York City
Woolf, Edgar Allan.....(Mhtn) New York City
Worthington, Henry Rossiter.....(Mhtn) New York City
Wynkoop, John.....Rochester, N. Y.
Special Students..... 51

SUMMARY

Senior Class	93
Junior Class	85
Sophomore Class	112
Freshman Class	119
Special Students	51
Total	460

SCHOOL OF LAW

OFFICERS OF INSTRUCTION AND GOVERNMENT

Officers of the Faculty

WILLIAM A. KEENER, LL.D., *Dean and ex-officio Member of the University Council.*
GEORGE W. KIRCHWEY, A.B., *Secretary.*
FRANCIS M. BURDICK, LL.D., *Elected Delegate to the University Council.*

Faculty of Law

SETH LOW, LL.D., *President*

WILLIAM A. KEENER, LL.D., *Kent Professor of Law, and Dean*
FRANCIS M. BURDICK, LL.D., *Dwight Professor of Law*
GEORGE W. KIRCHWEY, A.B., *Nash Professor of Law*
GEORGE F. CANFIELD, A.B., LL.B., *Professor of Law*
JOHN W. HOUSTON, A.M., LL.B., *Professor of Law*

Lecturers

CHARLES T. TERRY, A.B., LL.B. HARLAN F. STONE, B.S., LL.B.

From the Faculty of Political Science

JOHN W. BURGESS, Ph.D., LL.D., *Professor of Political Science and Constitutional Law*
MUNROE SMITH, A.M., J.U.D., *Professor of Roman Law and Comparative Jurisprudence*
FRANK J. GOODNOW, LL.D., *Professor of Administrative Law*
JOHN B. MOORE, A.B., LL.D., *Hamilton Fish Professor of International Law and Diplomacy*

WILLIAM H. SWITZER, *Law Librarian*

PURPOSES OF THE SCHOOL

The design of the school is to prepare students for practice in any State of the Union, and in furtherance of this object the endeavor is made to give a thorough, practical, and scientific education in the principles of the law included in the following subdivisions:

First.—The COMMON LAW, in its development and as it exists to-day in the United States, together with such statutory modifications as are generally in force in the several States.

Second.—EQUITY, in its development and as it exists to-day in the United States.

Third.—The LAW of the STATE OF NEW YORK, including PRACTICE and PLEADING under the CODE OF CIVIL PROCEDURE and the doctrines of substantive law peculiar to that State.

Fourth. — The PUBLIC LAW of the United States, and the Principal EUROPEAN COUNTRIES, including CONSTITUTIONAL LAW, ADMINISTRATIVE LAW, and INTERNATIONAL LAW.

Fifth.—COMPARATIVE JURISPRUDENCE and ROMAN LAW.

COURSE OF INSTRUCTION

First Year

CONTRACTS—Keener's Cases on Contracts. 4 hours a week. Mr. TERRY

CRIMINAL LAW—Beale's Cases on Criminal Law. 2 hours a week. Professor HOUSTON

DOMESTIC RELATIONS AND LAW OF PERSONS— Woodruff's Cases on Domestic Relations. 2 hours a week.* Mr. STONE

ELEMENTS OF JURISPRUDENCE — Keener's Selections on Jurisprudence. 2 hours a week.† Professor KEENER

EQUITY — Origin and Nature, Bills of Peace, Interpleader, Quia Timet, Removal of Cloud upon Title, Jurisdiction over Torts.—Keener's Cases on Equity, Vol 1. 2 hours a week.† Professor KEENER

REAL AND PERSONAL PROPERTY—Tenures, Estates, Nature and Incidents of Ownership, Conveyancing, Landlord and Tenant. Digby's History of the Law of Real Property ; Gray's Cases on Property, Vols. 1 and 3. 2 hours a week. Professor KIRCHWEY

TORTS—Burdick's Cases on Torts ; Pollock on Torts. 2 hours a week. Professor BURDICK

COMMON LAW PLEADING AND PRACTICE—Ames's Cases on Pleading ; Stephen on Pleading. 2 hours a week.‡ Professor HOUSTON

Second Year

AGENCY — Wambaugh's Cases on Agency. 2 hours a week. Professor CANFIELD

BAILMENTS AND CARRIERS—McClain's Cases on Carriers. 2 hours a week. Professor HOUSTON

EQUITY—Trusts. Ames's Cases on Trusts. 2 hours a week. Professor KEENER

INSURANCE—Richards on Insurance. 2 hours a week.‡ Mr. STONE

NEGOTIABLE PAPER—Ames's Cases on Bills and Notes. 2 hours a week. Professor BURDICK

QUASI-CONTRACTS—Keener's Cases on Quasi-Contracts. 2 hours a week. Professor KIRCHWEY

REAL AND PERSONAL PROPERTY—Easements, Covenants Affecting Land, Watercourses, Public Rights, etc. Gray's Cases on Property, Vols. 2 and 3. 2 hours a week. Professor KIRCHWEY

SALES OF PERSONAL PROPERTY—Burdick's Cases on Sales ; Burdick on Sales. 2 hours a week. Professor BURDICK

EQUITY PLEADING AND PRACTICE—2 hours a week.* Mr. STONE

ADMINISTRATIVE LAW—2 hours a week. Professor GOODNOW

COMPARATIVE CONSTITUTIONAL LAW—3 hours a week. Professor BURGESS

INSTITUTES OF ROMAN LAW—2 hours a week.§ Professor MUNROE SMITH

* First half-year.

† These courses together occupy two hours a week throughout the year. The course in Equity follows that in Jurisprudence.

‡ Second half-year.

§ Omitted in 1899–1900.

Third Year

BANKRUPTCY—2 hours a week.* Professor HOUSTON

CORPORATIONS—Keener's Cases on Corporations. 2 hours a week. Professor KEENER

EQUITY — Jurisdictions over Contracts, Account, Equitable Conversion. Keener's Cases on Equity Jurisdiction, Vols. 2 and 3. 2 hours a week. Professor KEENER

EVIDENCE— Thayer's Cases on Evidence. 2 hours a week. Professor CANFIELD

NEW YORK LAW, DOCTRINES PECULIAR TO—Trusts, Powers, Perpetuities, Charitable Devises, etc. 2 hours a week. Professor CANFIELD

PARTNERSHIP—Burdick's Cases on Partnership; Burdick on Partnership. 2 hours a week. Professor BURDICK

REAL AND PERSONAL PROPERTY—Conditions, Future Estates, Priorities, Restraints on Alienation, Perpetuities, etc. Gray's Cases on Property, Vols. 5 and 6. 2 hours a week. Professor KIRCHWEY

SURETYSHIP AND MORTGAGE—Ames' Cases on Suretyship; Kirchwey's Cases on Mortgage. 2 hours a week.† Professors BURDICK and KIRCHWEY

WILLS AND ADMINISTRATION—Gray's Cases on Property, Vol. 4. 2 hours a week. Professor HOUSTON

CODE PLEADING AND PRACTICE—2 hours a week. Mr. STONE

OFFICE PRACTICE—2 hours a week.* Professor HOUSTON

COMPARATIVE JURISPRUDENCE—2 hours a week.‡ Professor MUNROE SMITH

CONFLICT OF PRIVATE LAW—1 hour a week.‡ Professor MUNROE SMITH

INTERNATIONAL LAW—2 hours a week. Professor MOORE

MUNICIPAL CORPORATIONS—1 hour a week. Professor GOODNOW

LAW OF TAXATION—1 hour a week. Professor GOODNOW

Moot Courts

Moot Courts are held during the academic year, open only to members of the second and third year classes.

* The courses on Bankruptcy and Office Practice will be given for the first time in 1900–1901. Each course will occupy two hours a week for half a year. The course on Office Practice is intended to cover all the work of the law office not included in the courses on Pleading and Practice. Particular attention will be paid to the searching of titles, drawing of deeds, mortgages, trust instruments, wills, contracts, and mercantile instruments of various kinds, and the drafting of papers relating to the organization, reorganization, and management of corporations.

† The course on Suretyship is given during the first half-year by Professor BURDICK; the course on Mortgages during the second half-year by Professor KIRCHWEY. These courses cannot be taken separately.

‡ Not given in 1899–1900.

Requirements for Admission

All applicants for admission to the school must be of good moral character, and must be at least eighteen years of age for admission to the work of the first-year class at its formation, and of a corresponding increase of age for admission to advanced standing.

Graduates of colleges and scientific schools in good standing are admitted without examination. All persons other than such graduates must be eligible for admission to the Sophomore Class of the College, or present the academic diploma of the Regents of the State of New York, or a certificate acceptable to the Regents in lieu thereof. Inquiries for information as to Regents' certificates should be addressed to "The University of the State of New York, Examination Department, Albany, New York."

Beginning with the academic year 1903–1904 no person will be admitted to the school except graduates of colleges and scientific schools in good standing, or persons presenting satisfactory evidence of equivalent training.

Advanced Standing

Applicants for admission to advanced standing must produce satisfactory evidence of having spent as much time in some school having a required course of three years leading to the degree of Bachelor of Laws as has been spent in this school by the class to which admission is sought, and must in addition thereto pass satisfactory examinations in all the work previously done by the class to which they seek admission. No certificate or diploma will be accepted in lieu of these examinations for advanced standing.

No applicant will be admitted to advanced standing beyond the second year except by special vote of the faculty.

Applicants for admission to advanced standing will be required to produce evidence of having been qualified to enter the school at the formation of the class to which they seek admission.

Special Students

Applicants who do not desire to become candidates for a degree, may, if qualified to become candidates for a degree, pursue a special course of study approved by the Dean. Such students will be classified as special students. No one will be admitted to the school to pursue advanced work as a special student who has not passed satisfactory examinations in the contract, equity, and property courses preceding such work in point of time.

Special students must present themselves for examination in each subject selected by them at the first examination held therein, and must pass satisfactory examinations in a majority of the subjects, as a condition of continuing in the school.

Examinations

Written examinations are held at the end of each year on the subjects of that year and on the subjects of the first and second years during the week preceding the first Monday in October.

No student is admitted to advanced standing who has failed to pass satisfactory examinations in more than four hours of work per week. Any student failing in the final examinations held at the end of the first and second years may present himself for re-examination during the week preceding the first Monday in October. No student failing a third time in any given subject will be allowed to continue in the school.

No special examinations are given.

DEGREES AND CERTIFICATES

Bachelor of Laws

The course of instruction leading to the degree of Bachelor of Laws covers a minimum period of three years, in which there are offered sixty-three hours of instruction per week throughout the year. In the first year are offered fourteen hours of instruction per week; in the second year twenty-three hours of instruction per week; in the third year twenty-six hours of instruction per week, in addition to the nine hours per week in the second year not offered for the degree during that year.

The degree of Bachelor of Laws is conferred only upon students who have passed satisfactory examinations in courses covering a total of forty-two hours per week.

To obtain this degree in three years the student must take courses covering fourteen hours per week in each of the three years.

While no student will be allowed to present himself for examination in any one year in subjects covering more than fourteen hours per week, any one desiring to prolong the period of study for the degree of LL.B. beyond three years, will be permitted to reduce thereby the amount of work in any one year necessary for the degree. The faculty would strongly advise students who have not had an opportunity of thoroughly studying history, economics, and finance, so to prolong their course of study in order that they may avail themselves of the opportunity offered in the School of Political Science for studying these subjects.

The work selected by a student for a degree in law is subject in every case to the approval of the Dean.

Master of Laws

(See page 187)

Master of Arts

(See page 183)

REGISTER OF STUDENTS

THIRD YEAR CLASS

Adams, Hugh White, Jr.....Yonkers, N. Y.
Allen, William Keeler.....(Mhtn) New York City
Anderson, James Wight, A.B., *Williams*.....Springfield, Mass.
Arnegard, Knute, A.B., *University of North Dakota*.....Hillsboro, N. Dak.
Bailey, James McConnell, A.B., *Williams*.....Zanesville, Ohio
Barnard, Everett Larkin, A.B., *Yale*.....(Mhtn) New York City
Baum, Joseph Maurice.....(Mhtn) New York City
Baxter, Wyllys Pomeroy.....(Mhtn) New York City
Bing, Alexander Max, B.S., *N. Y. City College*; A. M., *Columbia*,
(Mhtn) New York City
Blackford, Ulysses Grant, A.B., *Hobart*.....Rochester, N. Y.
Bolte, Hermann Augustus.....(Br) New York City
Burlingame, Frederic Anson, A.B., *Harvard*.....(Mhtn) New York City
Carr, Sterling Douglas.....Yreka, Cal.
Cobb, William Bruce.....Ashburnham, Mass.
Corwin, Nathaniel Silleck.....Greenport, N. Y.
Cox, Wilson Naylor.....Terre Haute, Ind.
Cushing, Ernest Wolcott, A.B., *Knox College*.....Buda, Ill.
Denison, Robert Fuller, A.B., *Williams*.....Cleveland, Ohio
Doob, Irving Ephram, B.S., *N. Y. City College*.....(Mhtn) New York City
Drew, James Byron, A.B., *Curry University*.....Allegheny, Pa.
Edwards, Charles Hebard, A.B., *Columbia*.....Greenwich, Conn.
Eldridge, George Dyre, Jr., A.B., *Johns Hopkins*.....(Mhtn) New York City
Ellenbogen, Joseph Kent.....Allentown, Pa.
Fishel, Leo.....Babylon, N. Y.
Gentzlinger, Charles Frederick.....(Mhtn) New York City
Hackett, Henry Seavey, A.B., *Harvard*.....(Mhtn) New York City
Hall, Julian Hepworth, B.S., *Eureka College*.....Athens, Ill.
Hall, Louis Harrison, B.S., *Amherst*.....Naugatuck, Conn.
Hazzard, Harry Conwell, A.B., *Leland Stanford, Jr.*..(Mhtn) New York City
Heller, Bernard Schmaltz, B.S., *N. Y. City College*....(Mhtn) New York City
Heydt, Charles Ernest.....(Mhtn) New York City
Hickey, George Francis.....(Bklyn) New York City
Holland, Forbes Joseph, A.M., *St. Francis Xavier*...(Mhtn) New York City
Isaacs, Lewis M., Ph.B., *N. Y. University*.....(Mhtn) New York City
Joseph, Louis, B.S., *N. Y. City College*.....(Mhtn) New York City
Kemp, William Thomas, A.B., *St. John's, Md.*; A. M., *Columbia*,
Trappe, Md.

Kresel, Isidor Jacob.....(Mhtn) New York City
Lambrecht, Joseph William.....(Mhtn) New York City
Ledwith, Thomas Augustin, A.B., *St. Francis Xavier;* A.M., *Columbia*, (Mhtn) New York City
Leiter, Milton Myron, A.B., *Harvard*.....Syracuse, N. Y.
Levy, Charles.....(Mhtn) New York City
Levy, William Lipman, Ph. B., *N. Y. University;* A.M., *Columbia*, (Mhtn) New York City
Lewine, James Lester, A.B., *Columbia*.....(Mhtn) New York City
Lockhart, Leslie Scott.....(Mhtn) New York City
Logan, Joseph Clayton, A.B., *Roanoke College*.....Salem, Va.
Low, William Gilman, Jr., A.B., *Yale;* A.M., *Columbia*, (Bklyn) New York City
Lyall, Herbert James, A.B., *Amherst*.....(Mhtn) New York City
McKeag, Edwin Corwin, A.M., *Rutgers*.....New Brunswick, N. J.
Mackintosh, Kenneth, A.B., *Leland Stanford, Jr*.....Seattle, Wash.
Mills, Franklin Hubbell, A.B., *Williams*.....Amherst, Mass.
Miner, Elijah Daniel.....(Br) New York City
Morey, Arthur Thornton.....Denver, Colo.
Morgan, George Wilson, A.B., *Oberlin*.....(Mhtn) New York City
Mork, Seymour.....(Br) New York City
Morrison, Archie Bodine.....(Br) New York City
Murphy, William Larkin.....Missoula, Mont.
Noll, Frederick Adam.....Chattanooga, Tenn.
Noonan, Thomas Francis, A.M., *St. Francis Xavier*..(Mhtn) New York City
Norris, Benjamin Frank.....(Bklyn) New York City
Planten, William Rutger John.....(Bklyn) New York City
Platt, Mark Charles, B.S., *N. Y. City College*.....(Mhtn) New York City
Pringle, Edward Graves, A.B., *University of Missouri*.....Foristell, Mo.
Putnam, Albert William, A.B., *Columbia*.....(Mhtn) New York City
Randall, Henry Thomas, A.B., *Columbia*.....(Mhtn) New York City
Randolph, Frederic Peyton.....(Mhtn) New York City
Reilly, Frank Paine, A.B., *University of Rochester*.....Rochester, N. Y.
Richardson, Rodman.....(Q) New York City
Riley, Mathew Ignatius W., A.B., *St. Francis Xavier*.(Mhtn) New York City
Robbins, William Henry.....Bay Shore, N. Y.
Robinson, Roy Martin, A. B., *University of Kansas*.....Winfield, Kan.
Roll, John Krapp, A.B., *N. Y. City College*.....(Mhtn) New York City
Rosenbaum, Sidney.....(Mhtn) New York City
Rosenthal, Charles Meyer.....(Mhtn) New York City
Roy, Herbert Francis, A.B., *Williams*.....Troy, N. Y.
Saxe, John Godfrey, A.B., *McGill*.....(Mhtn) New York City
Schurz, Herbert, A.B., *Harvard*.....(Mhtn) New York City
Schwersenski, Abraham Lincoln.....(Mhtn) New York City
Shearman, Thomas Gaskell, Jr., A.B., *Yale;* A.M., *Columbia*, (Mhtn) New York City
Smith, Claude Crayton, A.B., *Emory*.....Atlanta, Ga.

Son, Charles Anshel, A.B., *University of California*; A.M., *Columbia*, San Francisco, Cal.
Spiegel, Max Jonas.....Chicago, Ill.
Spiegelberg, Eugene Edward, A.M., *Columbia*.....(Mhtn) New York City
Spingarn, Arthur Barnett, A.M., *Columbia*.....(Mhtn) New York City
Stern, Sydney Wilfred, A.B., *N. Y. City College*.....(Mhtn) New York City
Stewart, William Adams Walker, A.B., *Princeton*.....(Mhtn) New York City
Stiger, William Dexter, B.S., *Amherst*.....(Mhtn) New York City
Strauss, Morris Lincoln, A.M., *Columbia*.....(Q) New York City
Stripe, Frank Edward.....(Mhtn) New York City
Tebbetts, Theodore Charles, A.B., *Harvard*.....Lynn, Mass.
Theall, Elisha Sylvester, *U. S. Naval Academy*.....(Mhtn) New York City
Van Kleeck, Myndert James, B.S., M.L., *Hobart*.....Seneca Falls, N. Y.
Vinton, Stallo, A.M., *Columbia*.....(Mhtn) New York City
Walker, Clarence Frederick.....Guttenberg, N. J.
Ware, Sedley Lynch, A.B., *Oxford* (England).....(Mhtn) New York City
Wattenberg, Abraham Mordecai.....(Br) New York City
Weimert, Orson John.....Buffalo, N. Y.
Wendt, John.....(Mhtn) New York City
Worthen, Samuel Copp, A.B., *Columbia*.....Corinna, Me.
York, Frank Bernard.....(Bklyn) New York City
Third Year Class.....99

SECOND YEAR CLASS

Abbe, William, A.B., *Harvard*.....Washington, D. C.
Acken, George Alonzo.....Demarest, N. J.
Anderson, Rupert Wentworth Kelsell.....Plainfield, N. J.
Arens, Max.....(Bklyn) New York City
Armstrong, Lawrence Edgar, Ph.B., *Ohio University*.....Rawlins, Wyo.
Aronson, David Archibald, B.S., *N. Y. City College*...(Mhtn) New York City
Aronson, Jacob Jay, A.B., *N. Y. City College*.....(Mhtn) New York City
Averill, Frederick Clark, Ph.B., *University of Michigan*.....Toledo, Ohio
Averill, Morton Knight, A.B., *Columbia*.....(Mhtn) New York City
Baker, Louis Belmont, M.D., *University of Pennsylvania*, (Mhtn) New York City
Bennett, Warfield Clay, A.B., *Central University*.....Richmond, Ky.
Bentel, George Edwin, A.B., *Lafayette*.....(Mhtn) New York City
Birnbaum, Martin, A.B., *N. Y. City College*; A.M., *Columbia*, (Mhtn) New York City
Blumenthal, Eugene, A.B., *Yale*.....(Mhtn) New York City
Botty, George Matthew.....(Mhtn) New York City
Brill, Julius.....(Bklyn) New York City
Brimmer, George Edric.....Sandy Hill, N. Y.
Bross, William Warren, A.B., *Columbia*.....(Mhtn) New York City
Byers, Russell Trall, Ph.B., *Wabash*.....Indianapolis, Ind.
Christmann, Adam, Jr.....(Bklyn) New York City

Cohen, Isaac.....(Mhtn) New York City
Cohen, Max, A.B., *N. Y. City College*.....(Mhtn) New York City
Comey, John Winthrop, Ph.B., *Brown*.....(Mhtn) New York City
Corrigan, Joseph Eugene, A.M., *Seton Hall*.....(Mhtn) New York City
Curtis, Benjamin Robbins, A.B., *Harvard*.....Cambridge, Mass.
Curtis, Ellicott Douglass, A.B., *Harvard*.....(Mhtn) New York City
de Young, Arthur Brill, A.B., *Columbia*.....(Mhtn) New York City
Doherty, Charles John.....(Mhtn) New York City
Doughty, William Howard, Jr., A.B., *Williams*.....Troy, N. Y.
Duncan, George Edwards, A.B., *Bethel*.....Russellville, Ky.
Eyanson, Francis Engelbert, Lit.B., *Notre Dame University*,
Columbia City, Ind.
Farnham, Wallace Strong.....South Windsor, Conn.
Fetzer, Levi Truckenmiller, Ph.B., *Bucknell University*.....Montandon, Pa.
Fischer, Samuel Melvin, A.B., *N. Y. City College ;* A.M., *Columbia*,
(Mhtn) New York City
Floyd, Charles William, A.B., *Williams*.....Memphis, Tenn.
Foster, Benjamin Franklin, Ph.B., *New York University*,
(Mhtn) New York City
Fox, Robert Charles.....La Porte, Ind.
Fuller, Charles, A.B., *St. Francis Xavier*.....(Mhtn) New York City
Gilchrist, Edward Percy, Ph. B., *Bucknell University*.....Wade, Fla.
Goodhue, Isaac Walter, B.D., *Crozer Theo. Seminary*.....Worcester, Mass.
Haas, Harry Louis, A.B., *Columbia*.....(Mhtn) New York City
Haber, Joseph, Jr., Ph.B., *University of California*.....San Francisco, Cal.
Halff, Mayer Leo, A.B., *University of Virginia*.....San Antonio, Tex.
Hall, Lester Walton, Ph.B., *Yale*.....Kansas City, Mo.
Haussling, Gustave.....Newark, N. J.
Hayden, John Putnam, A.B., *Harvard*.....(Mhtn) New York City
Herman, Sydney Hubert, A.B., *N. Y. City College ;* A.M., *Columbia*,
(Mhtn) New York City
Huffaker, Hite Hervey.....Louisville, Ky.
Ingraham, Daniel Phœnix, A.B., *Harvard*.....(Mhtn) New York City
Jackson, Arthur Barnett, Ph.B., *De Pauw University*.....Greencastle, Ind.
Josephson, Walter Stokes.....(Bklyn) New York City
Josephthal, Sidney Louis, A.B., *Columbia*.....(Mhtn) New York City
Kaiser, Emanuel Metzger, A.B., *N. Y. City College*.....(Mhtn) New York City
Kayser, Harry Conrad Adolphus.....(Mhtn) New York City
Koenig, Herman Leopold.....Newark, N. J.
Lederman, Jules Delmore, A.B., *N. Y. City College ;* A.M., *Columbia*,
(Mhtn) New York City
Lee, Arthur, A.B., *Columbia*.....(Bklyn) New York City
Levy, Louis Samter, A.B., *Yale*.....Bloomington, Ill.
Lovenberg, Isaac.....Galveston, Tex.
McGrath, Francis Sims, B.S., *University of Pennsylvania*,
(Mhtn) New York City
McNaught, Roy Hyde.....(Mhtn) New York City

Mairs, Olney Blanchard, A.B., *Williams*.....Nyack, N. Y.
Manton, Martin Thomas.....Sayville, N. Y.
Menline, Joseph Spencer, A.B., *N. Y. City College*....(Mhtn) New York City
Miller, Nelson Dorrington.....Steubenville, Ohio
Milne, William Edwards, A.B., *Amherst*.....Englewood, N. J.
Mueller, Alfred Christian, LL.B., *State University of Iowa*..Davenport, Iowa
Myers, David Sydney, A.B., *N. Y. City College*.....(Mhtn) New York City
Perkins, Norton, A.B., *Harvard*.....(Mhtn) New York City
Picher, Oliver Sheppard, A.B., *Leland Stanford, Jr*.....Pasadena, Cal.
Pollock, Henry William.....(Mhtn) New York City
Raynolds, Herbert Frederick, A.B., *Harvard*.....(Mhtn) New York City
Recknagel, Harold Sylvester, A.B., *Yale*.....(Bklyn) New York City
Requa, Leonard Franklin, Jr.....(Mhtn) New York City
Robinson, Beverley Randolph, A.B., *Harvard*.....(Mhtn) New York City
Robinson, Herman Foster, A.B., *Harvard*.....(Mhtn) New York City
Rogers, John Shillito, A.B., *Yale*.....(Mhtn) New York City
Rogers, Thomas Francis.....Corning, N. Y.
Ruslander, S. Leo.....Du Bois, Pa.
Sarle, John R.....Coveville, N. Y.
Schreiber, George Gebner, A.B., *Yale*.....Hoboken, N. J.
Scott, Allan, B.S., *N. Y. City College*.....(Mhtn) New York City
Seaman, Warren Clifford.....Glen Head, L. I.
Sherer, Prescott Alfriend, A.B., *Columbia*.....(Mhtn) New York City
Silbiger, Samuel.....(Mhtn) New York City
Smith, Robert Leslie.....(Q) New York City
Smith, Thomas Max, A.B., *Yale*.....Keene Valley, N. Y.
Southard, Charles Erastus, B.S., *University of Colorado*.....Greeley, Colo.
Stayton, John William, Jr.....Newport, Ark.
Symmes, William Bittle, Jr., A.B., *Columbia*(Mhtn) New York City
Tows, Ferrars Heaton, A.B., *Yale*.....(Mhtn) New York City
Trigg, William Hall.....Boonville, Mo.
Turnbull, Robert James, Jr., A.B., *Yale*.....(Mhtn) New York City
Turner, Lucius D., Jr Belleville, Ill.
Tyler, Cornelius Boardman, A.B., *Amherst* Plainfield, N. J.
Ulman, Joseph Nathan, A.B., *Johns Hopkins University*.....Baltimore, Md.
Van Hoevenberg, Henry, Jr.....Kingston, N. Y.
Vigouroux, George Emile.....(Mhtn) New York City
Wales, Byron Roger Binghamton, N. Y.
Walker, Harold, A.B., *Amherst*.....(Mhtn) New York City
Ward, Charles Whitney.....Dorchester, Mass.
Warner, Lucien Thompson, A.B., *Oberlin*.....Irvington-on-Hudson, N. Y.
Waterman, Edgar Francis, A.B., *Trinity*(Mhtn) New York City
Weidmann, Anton.....(Bklyn) New York City
Westerfield, William Rogers, A.B., *Columbia*.....(Mhtn) New York City
Whitney, William Locke, A.B., *Oberlin*.....Honolulu, T. of Hawaii
Wickes, Forsyth, A.B., *Yale*.....(Mhtn) New York City
Wilson, Burton Wilbur, A.B., *University of Nebraska*..(Mhtn) New York City

Wilson, George Wood, B.S., *Guilford College*.....Lenoir, N. C.
Wilzin, Jerome.....Greenville, Miss.
Woolsey, John Munro, A.B., *Yale*.....Englewood, N. J.
Yuzzolino, Albert Mazzani, A.B., *N. Y. City College*..(Bklyn) New York City

Second Year Class.....112

FIRST YEAR CLASS

Aarons, Sidney Henry, B.S., *N. Y. City College*.....(Mhtn) New York City
Acton, Harry Wagner.....(Mhtn) New York City
Adams, John Brown, A.B., *Yale*.....(Mhtn) New York City
Albers, Henry, Jr., A.B., *Pennsylvania College*.....(Bklyn) New York City
Ansley, George Hanford, A.B., *Williams*.....Salamanca, N. Y.
Anspacher, Louis Kaufman, A.B., *N. Y. City College*; A.M., *Columbia*, (Mhtn) New York City
Armstrong, Lorenzo Dibble, A.B., *Yale*.....(Mhtn) New York City
Baird, William Edward, A.B., *Vanderbilt University*.....Columbia, Tenn.
Baker, Charles Adkins, A.B., *Columbia*.....(Mhtn) New York City
Barrett, John Michael, A.B., *Georgetown University*...(Mhtn) New York City
Bartholomae, Hugo James.....(Mhtn) New York City
Beakes, Robert Osborn.....Bloomingburgh, N. Y.
Beekman, Cornealius C.....Bath, N. Y.
Benziger, Bernard Adelrich, A.B., *Canisius College*.....(R) New York City
Beyer, Robert Paul.....(Mhtn) New York City
Bissell, Hugh Moffat, A.B., *Yale*.....Detroit, Mich.
Blackwell, Frank Engs, Jr.....(Mhtn) New York City
Bloch, Benjamin I.....San Francisco, Cal.
Boardman, Sidney Sewall.....(Mhtn) New York City
Bogart, Paul Nebeker, A.B., *Williams*.....Clinton, Ind.
Boylan, Philip James, A.B., *St. Francis Xavier*.....(Mhtn) New York City
Bradshaw, William Francis, B.S., *Vanderbilt*.....Paducah, Ky.
Bryson, Roscoe S., A.B., *University of Oregon*.....Corvallis, Ore.
Burrell, Norman Macleod, A.B., *Yale*.....(Mhtn) New York City
Cardozo, Ernest Abraham, A.B., *Columbia*.....(Mhtn) New York City
Clarke, Stuart Nowlan, A.B., *St. Francis Xavier*.....(Br) New York City
Coe, John Lawrence, Jr.....Bay Shore, N. Y.
Conger, Henry Rutgers, A.B., *Williams*.....(Mhtn) New York City
Conklin, Robert Smith.....(Mhtn) New York City
Connolly, Maurice Edward.....(Q) New York City
Curtis, Bridgham, A.B., *Harvard*.....(Mhtn) New York City
Cushing, Royal Barrows, A.B., *Knox*.....Buda, Ill.
Dennis, Henry Ray, A.B., *Yale*.....(Mhtn) New York City
Dewsnap, George Gibbs.....(Mhtn) New York City
Duckworth, Albert Walter.....(Bklyn) New York City
Dwyer, John Joseph.....(Mhtn) New York City
Eldert, Henry Cameron, A.B., *Columbia*.....(Bklyn) New York City
Emmanuelli, Felix.....(Mhtn) New York City

Ernst, Bernard Morris Leon, A.B., *Columbia*.....Uniontown, Ala.
Falck, Alexander Diven, A.B., *Williams*.....Elmira, N. Y.
Farrell, Philip Leo.....(Bklyn) New York City
Fay, Edward Leo.....Le Roy, N. Y.
Foise, Joseph Freund.....(Mhtn) New York City
Foley, Michael Emmet, A.B., *Wabash*.....Crawfordsville, Ind.
Forst, Leon.....Rondout, N. Y.
Fox, Noel Bleecker, A.B., *Princeton*.....Morristown, N. J.
Frank, Joseph Slevin, A.B., *N. Y. City College*.....(Mhtn) New York City
Frank, Walter Paul, A.B., *Harvard*.....(Mhtn) New York City
Frazer, Charles Royall, A.B., *Yale*.....Cynthiana, Ky.
Frechtling, Helm Philip.....Hamilton, Ohio
Gagan, Thomas Francis.....Haverstraw, N. Y.
Ganter, Charles Ransom, A.B., *Kenyon*.....Akron, Ohio
Gerrety, Thomas Aquinas, B.S., *Rutgers*.....New Brunswick, N. J.
Gillespie, Lawrence Lewis, A.B., *Harvard*.....(Mhtn) New York City
Gladney, Franklin Young, A.B., *University of Missouri*.....Auburn, Mo.
Glasscheib, Simon Henry.....(Mhtn) New York City
Goldberg, Samuel, B.S., *N. Y. City College*.....(Mhtn) New York City
Goodwin, William McAfee.....Atlanta, Ga.
Graves, Dwight Davis.....Bridgeport, Conn.
Graves, James Washington.....Montgomery City, Mo.
Griffin, Walter Henry, A.B., *Amherst*.....(Bklyn) New York City
Guinan, Edwin Vincent.....North Adams, Mass.
Haas, Leonard, A.B., *University of Georgia*.....Atlanta, Ga.
Hall, William Whyte.....W. Pittston, Pa.
Hamilton, Edward William, A.B., *Princeton*.....(Mhtn) New York City
Hare, John Joseph, B.L., *Hobart*.....Groton, N. Y.
Harrington, Howard Sawyer, A.B., *Columbia*.....Jersey City, N. J.
Harwood, Stephen Paul, A.B., *Johns Hopkins*.....Baltimore, Md.
Havens, Samuel Mark, A.B., *University of Rochester*.....Weedsport, N. Y.
Hentschel, Charles, Jr.....(Bklyn) New York City
Heyman, Samuel.....Jersey City, N. J.
Hopps, Daniel Valentine, A.B. *University of Georgia*.....Savannah, Ga.
Hull, Harold Guy.....Colorado Springs, Colo.
Insley, Robert Buckell.....Indianapolis, Ind.
Jenkins, Raeburn William, A.B., *N. Y. City College*. ..(Mhtn) New York City
Joseph, Irving Jacob.....(Mhtn) New York City
Kelly, Edward John, A.B., *Santa Clara*.....Watsonville, Cal.
Kinkead, George Blackburn, A.B., *Princeton*.....Poughkeepsie, N. Y.
Knoell, Charles John.....Tonawanda, N. Y.
Leffingwell, Russell Cornell, A.B., *Yale*.....Yonkers, N. Y.
Leng, Theodore Castle.....(R) New York City
Lewis, Everson Howard, A.B., *Yale*.....Syracuse, N. Y.
Lichtenstein, Oscar Richard, A.B., *Columbia*.....(Bklyn) New York City
Locke, Jesse Albert, A.M., *Columbia*.....(Mhtn) New York City
Lowenstein, Sol. Albert.....(Mhtn) New York City

McCann, John Franklin, Jr., A.B., *Columbia*(Bklyn) New York City
McGonegal, Henry S.....Irondequoit, N. Y.
McLellan, Hugh Dean, A.B., *Colby*.....Belfast, Me.
Marcus, John, A.B., *Columbia*.....Jersey City, N. J.
Marsden, Arthur Willard.....New Haven, Conn.
Marshall, Chesley Brown, A.B., *Mercer University*.....Atlanta, Ga.
Metzger, William Johnston.....Talrobe, Pa.
Milan, Charles W.....Long Branch, N. J.
Miller, Harry.....(Q) New York City
Mitchell, George Henry, A.B., *Yale*.....(Mhtn) New York City
Mittendorf, George Samuel, A.B., *Yale*.....(Mhtn) New York City
Moller, Frank.....Quincy, Ill.
Moorhead, Harley Green, Ph.B., *Oberlin*.....Omaha, Neb.
Morris, Austin Flint.....Belvidere, N. J.
Mulligan, George Hobart Doane, A.B., *St. Francis Xavier*...Newark, N. J.
Mulligan, James Roosevelt Bayley, A.B., *St. Francis Xavier*..Newark, N. J.
Myers, Vivian Meredith, A.B., *Richmond College*.....Savannah, Ga.
Neff, Charles Melvin, Ph.B., *Rochester University*.....Rochester, N. Y.
Nicoll, Fancher, A.B., *Williams*.....(Mhtn) New York City
O'Loughlin, Coleman Stuart, A.B., *Yale*.....Glens Falls, N. Y.
Ossoski, Sidney.....Hornellsville, N. Y.
Page, Benjamin Edwin, A.B., *Leland Stanford, Jr*.....Pasadena, Cal.
Parks, John Waring, A.B., *Columbia*.....(Mhtn) New York City
Parsons, Geoffrey, A.B., *Columbia*.....(Q) New York City
Parsons, George Sanford.....(Bklyn) New York City
Parsons, Theophilus, A.B., *Columbia*.....(Q) New York City
Pinkney, Cornelius Sidell.....(Mhtn) New York City
Pond, Oscar Lewis, A.B., *Indiana University*.....Shelbyville, Ind.
Pratt, James Bissett, A.B., *Williams ;* A.M., *Harvard*..... Elmira, N. Y.
Pretzfeld, Howard Friedman, B.S., *N. Y. City College*.(Mhtn) New York City
Quinn, William Thomas, A.B., *Williams*.....Williamstown, Mass.
Rich, Leo Howard.....(Bklyn) New York City
Riegelman, Charles Augustus, A.B., *University of Michigan*,
(Mhtn) New York City
Rogers, W. Leroy.....Phœnixville, Pa.
Rosenbluth, Sydney M.....Wilkesbarre, Pa.
Rothschild, Solomon.....(Mhtn) New York City
Russell, Philip Winfred, A.B., *University of Nebraska*.....Omaha, Neb.
Ryan, Michael Joseph, Jr.....(Bklyn) New York City
Sands, Joshua.....(Mhtn) New York City
Scharps, Abraham.....Newburgh N. Y.
Schley, James Montfort, Jr.....(Mhtn) New York City
Schwartz, Leon, A.B., *N. Y. City College*.....(Mhtn) New York City
Seligmann, Rudolph Albert, A.B., *N. Y. City College*..(Mhtn) New York City
Sercomb, Royal C., A.B., *Beloit*.....Milwaukee, Wis.
Shaffer, Newton Melman, Jr..... (Mhtn) New York City
Shiveley, Ray Kan, B.L., *Earlham College*.....Richmond, Ind.

Smith, William Joseph, B.S., *Union College*.....Waterford, N. Y.
Solá, Marcelino A., *Prov. Inst., Porto Rico*.....(Mhtn) New York City
Southard, Robert Hamilton, A.B., *Princeton*.....(Mhtn) New York City
Sperling, Frederick William, A.B., *N. Y. City College*.(Mhtn) New York City
Strauss, Charles Augustus, A.B., *N. Y. City College*....(Mhtn) New York City
Stremel, Karl Frederick.....Johnstown, Pa.
Strouse, Alexander Louis, A.B., *N. Y. City College*....(Mhtn) New York City
Stuart, Sidney.....(Mhtn) New York City
Sturgis, Granville Forbes.....(Bklyn) New York City
Sullivan, Frank Allison, *Virginia Military Institute*.....Elkton, Ky.
Sundheimer, Malcolm, B.S., *N. Y. City College*.....(Mhtn) New York City
Sykes, Emory Howe, A.B., *Bowdoin*.....Billerica, Mass.
Taylor, Howard C.....(Mhtn) New York City
Teven, Sidney Lionel, A.B., *N. Y. City College*.....(Mhtn) New York City
Thornley, John, A.B., *University of Virginia*.....Charlottesville, Va.
Tilden, Ernest Lyman, A.B., *Knox*.....Galesburg, Ill.
Townsend, Myron Turner, Ph.B., *Yale*.....(Mhtn) New York City
Tuttle, Charles Henry, A.B., *Columbia*.....(Mhtn) New York City
Tweedy, James Belcher.....(Mhtn) New York City
Ullman, Jerome.....(Mhtn) New York City
Valieant, John Foggo, A.B., *Lafayette*.....(Mhtn) New York City
Waldron, Frank Rogers.....Binghamton, N. Y.
Ward, Artemas, Jr., A.B., *Harvard*.....(Mhtn) New York City
Ward, Theodore Hackett.....(Mhtn) New York City
Warren, Willis Ogden, Ph.B., *Yale*.....(Mhtn) New York City
Watterson, Harvey.....Louisville, Ky.
Wertheimer, Leo Weldon, Ph.B., *Kenyon*.....Newport News, Va.
Wherry, William Mackey, Jr., B.S., *University of Michigan*,
(Mhtn) New York City
Whiteman, Tom Moorhead, Ph.B., *Dickinson*.....Latrobe, Pa.
Wickham, Romeyn Dudley, A.B., *Western Reserve University*,
Norwalk, Ohio
Wolfe, William Henry, Jr., Ph.B., *Marietta*..... Parkersburg, W. Va.
Wood, Loren Newton, B.S., *Carleton*.....Arvilla, N. Dak.
Wright, Charles Albert, A.B., *Williams*.....Moravia, N. Y.
Wund, William Frederick, B.S., *N. Y. City College*....(Mhtn) New York City
Wysong, Charles Newbold.....Port Washington, N. Y.
First Year Class..... 166

SPECIAL STUDENT

Mackenzie, Kenneth Kent.....Kansas City, Mo.
Special Student..... 1

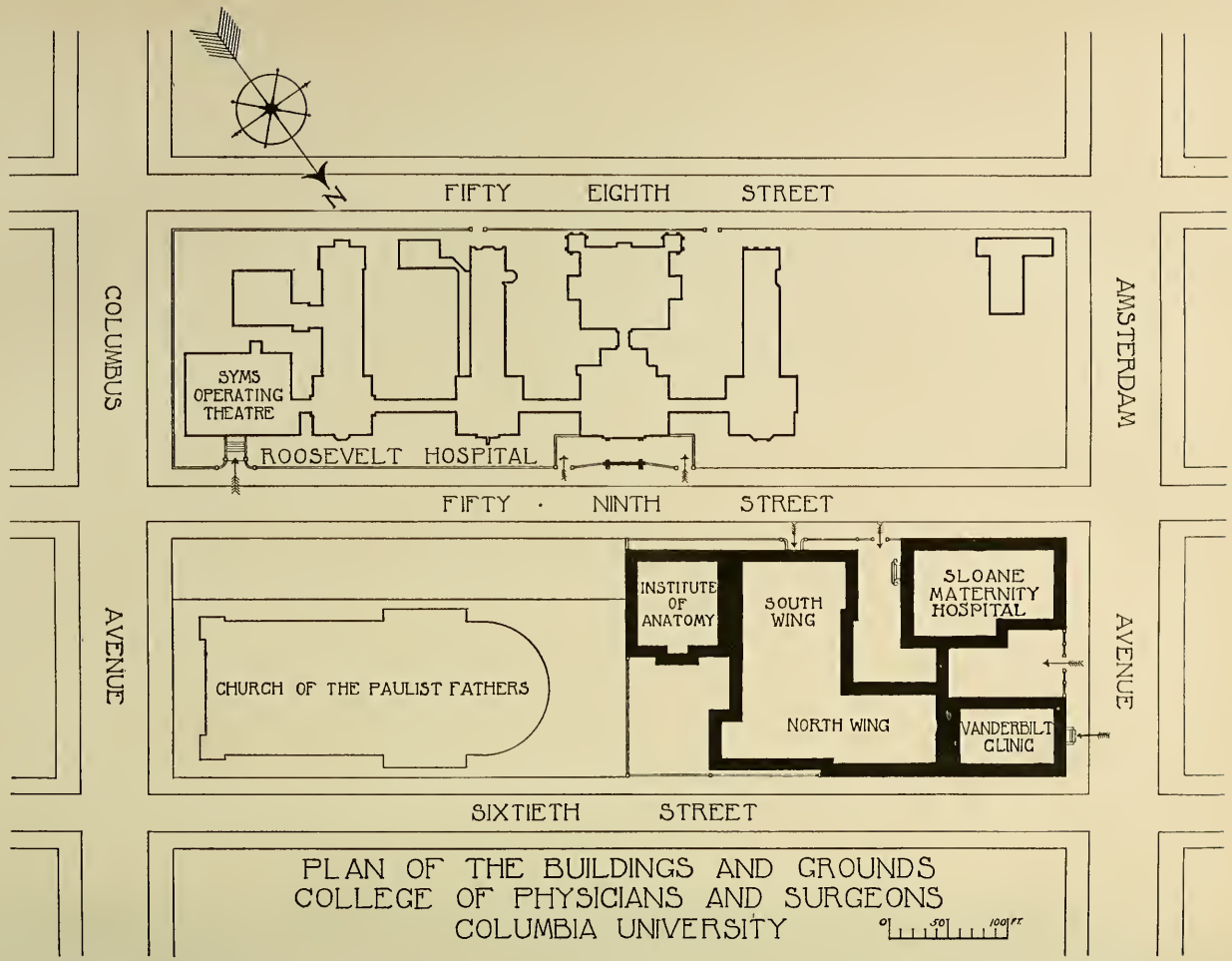
SUMMARY

Third Year Class	99
Second Year Class	112
First Year Class	166
Special Student	1
Total	378

PARENTAGE OF DEGREES

Amherst College	7
Beloit College	1
Bethel College	1
Bowdoin College	1
Brown University	1
Bucknell University	2
Canisius College	1
Carleton College	1
Central University, Ky	1
Colby University, Me	1
Columbia College	31
Crozer Theological Seminary	1
Curry University	1
De Pauw University	1
Dickinson College	1
Earlham College	1
Emory College	1
Eureka College	1
Georgetown University	1
Guilford College	1
Harvard University	18
Hobart College	3
Johns Hopkins University	3
Kenyon College	2
Knox College	3
Lafayette College	2
Leland Stanford, Jr., University	4
McGill University, Canada	1
Marietta College	1
Mercer University	1
New York City College	33
New York University	3
Notre Dame University	1
Oberlin College	4
Oxford University, England	1
Pennsylvania College	1
Princeton University	5

Puerto Rico de Instituto Provincial	1
Richmond College	1
Roanoke College	1
Rutgers College	2
St. Francis Xavier College	9
St. John's College, Md	1
Santa Clara College	1
Seton Hall College	1
Trinity College, Conn	1
Union College	1
University of California	2
University of Colorado	1
University of Georgia	2
University of Indiana	1
University of Kansas	1
University of Michigan	3
University of Missouri	2
University of Nebraska	2
University of North Dakota	1
University of Ohio	1
University of Oregon	1
University of Pennsylvania	1
University of Rochester	3
University of Virginia	2
U. S. Naval Academy	1
Vanderbilt University	2
Virginia Military Institute	1
Wabash College	2
Western Reserve University	1
Williams College	16
Yale University	27
68 Colleges and Universities. Total Graduates	235


FIFTY EIGHTH STREET
COLUMBUS AVENUE
AMSTERDAM AVENUE
SYMS OPERATING THEATRE
ROOSEVELT HOSPITAL
FIFTY · NINTH STREET
CHURCH OF THE PAULIST FATHERS
INSTITUTE OF ANATOMY
SOUTH WING
SLOANE MATERNITY HOSPITAL
NORTH WING
VANDERBILT CLINIC
SIXTIETH STREET
PLAN OF THE BUILDINGS AND GROUNDS
COLLEGE OF PHYSICIANS AND SURGEONS
COLUMBIA UNIVERSITY
0 50 100 FT

SCHOOL OF MEDICINE

COLLEGE OF PHYSICIANS AND SURGEONS

The instruction in medicine is given under the following departments:

ANATOMY
BACTERIOLOGY
CHEMISTRY, GENERAL
CHEMISTRY, PHYSIOLOGICAL
CLINICAL MICROSCOPY
DERMATOLOGY
DISEASES OF CHILDREN
GENITO-URINARY AND VENEREAL DISEASES
GYNECOLOGY
HISTOLOGY
LARYNGOLOGY
MATERIA MEDICA AND THERAPEUTICS
NEUROLOGY
OBSTETRICS
OPHTHALMOLOGY
OTOLOGY
PATHOLOGY
PHYSICS
PHYSIOLOGY
PRACTICE OF MEDICINE
SURGERY

Officers of the Faculty

JAMES W. MCLANE, M.D. *Dean and Ex-Officio Member of the University Council*
JOHN G. CURTIS, M.D. *Elected Delegate to the University Council*
FRED J. BROCKWAY, M.D. *Secretary*

The Faculty

SETH LOW, LL.D., *President.*

FRANCIS DELAFIELD, M.D., *Professor of the Practice of Medicine*
JOHN G. CURTIS, M.D., *Professor of Physiology*
GEORGE M. TUTTLE, M.D., *Professor of Gynecology*
GEORGE L. PEABODY, M.D., *Professor of Materia Medica and Therapeutics*
WILLIAM T. BULL, M.D., *Professor of Surgery*
M. ALLEN STARR, M.D., Ph.D., *Professor of Diseases of the Mind and Nervous System*
GEORGE S. HUNTINGTON, M.D., *Professor of Anatomy*
ROBERT F. WEIR, M.D., *Professor of Surgery*
T. MITCHELL PRUDDEN, M.D., LL.D., *Professor of Pathology, Director of the Laboratories of Histology, Pathology, Bacteriology, and Clinical Microscopy*
EDWIN B. CRAGIN, M.D., *Professor of Obstetrics*

NOTE.—For details as to other officers of instruction, see departmental statements.

gift of $350,000, enabling the size of the building to be doubled. In the enlarged building, ample space is provided, not only for the reception of the constantly increasing number of patients, but also for the instruction of the students in small classes in each of the eleven different departments. Two large dark rooms with twenty stalls are provided for instruction in the use of the ophthalmoscope and laryngoscope. Each department has a room for the practical instruction of small groups of students, in addition to the rooms devoted to the treatment of patients. There is a large theatre for the clinical lectures, accommodating about four hundred students, and a smaller lecture hall where one hundred can be seated.

All modern appliances for the treatment of diseases have been introduced, so that students can learn thoroughly the use of all methods in each department, and thus can acquire a practical knowledge of all the "specialties" in medicine.

Sloane Maternity Hospital

The Sloane Maternity Hospital is situated upon the grounds of the College of Physicians and Surgeons, and the service is under the exclusive direction of the Professor of Obstetrics in the college, the Instructor in Obstetrics being the Resident Physician.

The wards of the hospital since its recent enlargement furnish one hundred and sixteen beds, and there are ample accommodations for the House Staff, students, and nurses.

The operating-room is equipped with all modern surgical and obstetrical conveniences and has seating accommodation for fifty-one students.

The number of deliveries averages over eleven hundred a year. These, with the obstetric operations and the subsequent treatment of women and infants, afford invaluable practical experience, such as is offered at no other medical school in this country.

REQUIREMENTS FOR ADMISSION

No entrance examinations are conducted at this college, but all students who matriculate with the intention of becoming candidates for the degree of Doctor of Medicine must present a *medical-student certificate from the Regents of the University of the State of New York.*

For information concerning the requirements for obtaining this medical-student certificate, address *Examination Department, University of the State of New York, Albany, N. Y.*

CURRICULUM

The work required of the students at this college who are candidates for the degree of M.D. covers four years of study according to the curriculum set forth below in outline.

The right is reserved to make amendments to this curriculum as experience may prove necessary.

Programmes of the exercises, giving time and place, will be distributed among the matriculants at the beginning of each annual session.

The following statement is drawn up from the point of view of the student, and shows what is expected from each matriculant taking the regular curriculum.

In all subjects which are not completed in a single year the instruction offered to a given student will be different each year.

The regular instruction for 1899–1900 began on Wednesday, October 4, 1899, at 11 A.M. Commencement will be on Wednesday, June 13, 1900.

Every student intending to be a candidate for the degree of M.D. must register his name in person within the first seven working days of each session.

Students who have pursued elsewhere courses in Physics and General Chemistry substantially equivalent to those given at this college, may be exempted from the work in those subjects on presentation of satisfactory certificates or after satisfactory examination.

First Year

PHYSICS.

Lectures, combined with demonstrations, 3 a week for one half of the year.

Laboratory Work, 3-hour exercises once a week for one half the year.

GENERAL CHEMISTRY.

Lectures, 2 a week.

Conferences, 2 a week for one half the year.

Laboratory Work, 2-hour exercises twice a week for one half the year.

ANATOMY, begun.

Demonstrations to sections, 4 a week for each student.

Laboratory Work in dissection, 18 to 20 hours a week, for from 3 to 5 periods of 4 weeks each.

NORMAL HISTOLOGY, begun.

Laboratory Work, 2-hour exercises 3 times a week for one half the year.

PHYSIOLOGY, begun.

Lectures combined with demonstrations, 3 a week.

Demonstrations to sections, from 1 to 3 a week for each student.

EXAMINATIONS upon the work of the first year.

Second Year

ANATOMY, finished.

Lectures combined with demonstrations, 3 a week.

Demonstrations to sections, 4 a week for each student for one half the year; 5 a week for each student for one half the year.

Laboratory Work in dissection, 10 to 12 hours a week, for from 1 to 3 periods of 4 weeks each.

NORMAL HISTOLOGY, finished.

Laboratory Work, 2-hour exercises twice a week for one half the year.

PHYSIOLOGY, finished.

Lectures combined with demonstrations, 3 a week.

Demonstrations to sections, from 1 to 3 a week for each student.

PHYSIOLOGICAL CHEMISTRY.

Lectures with occasional demonstrations, 1 a week for one half the year for each student.

Conferences combined with *Recitations*, 1 a week for one half the year.

Laboratory Work, 2-hour exercises 3 times a week for one half the year.

PATHOLOGICAL ANATOMY, begun ; the technique of autopsies.

Attendance at Autopsies, with practical instruction, once a week for 8 weeks.

BACTERIOLOGY.

Laboratory Work, 2-hour exercises 3 times a week for one fourth the year.

MATERIA MEDICA AND THERAPEUTICS, begun.

Lectures, 3 hours a week.

OBSTETRICS AND GYNECOLOGY, begun.

Recitations combined with demonstrations to sections, 1 a week for each student.

EXAMINATIONS upon the work of the second year.

Third Year

MATERIA MEDICA AND THERAPEUTICS, finished.

Lectures, 3 a week.

PATHOLOGICAL ANATOMY, finished.

Demonstrations to sections, 2 a week for each student.

GENERAL PATHOLOGY AND PATHOLOGICAL HISTOLOGY.

Laboratory Work, 2-hour exercises 3 times a week for one half the year.

THE PRACTICE OF MEDICINE, begun.

Lectures, 3 a week.

Clinical Lectures at the Vanderbilt Clinic, once a week.

Clinical Lectures or Instruction in the wards at the Roosevelt Hospital, once a week ; at the New York Hospital, once a week for one half the year.

Practical Clinical Instruction to sections in physical diagnosis, for each student, twice a week for 16 weeks.

DISEASES OF THE MIND AND NERVOUS SYSTEM, begun.

Lectures, 1 a week, October to March.

THE PRINCIPLES AND PRACTICE OF SURGERY, begun.

Lectures, 2 a week.

Clinical Lectures, at the Vanderbilt Clinic, twice a week.

Clinical Lectures and the witnessing of operations at the New York or Roosevelt Hospital, once a week.

Practical Clinical Instruction, to sections, for each student, twice a week for sixteen weeks at the Vanderbilt Clinic and the out-patient department of the Roosevelt Hospital.

Optional—Clinical Lectures and the witnessing of operations at the following hospitals: The New York, Presbyterian, St. Luke's, St. Mary's Free Hospital for Children, and the General Memorial Hospital.

OBSTETRICS, continued.
Lectures, 3 a week, October to March.

GYNECOLOGY, continued.
Lectures, 3 a week, March to May.
Clinical Lectures at the Vanderbilt Clinic, 1 a week.
Clinical Lectures and the witnessing of operations at the Roosevelt Hospital by sections, 6 exercises for each student.
Practical Clinical Instruction to sections, 6 exercises for each student.

VENEREAL AND GENITO-URINARY DISEASES.
Clinical Lectures at the Vanderbilt Clinic, 1 a week.
Clinical Lectures and the witnessing of genito-urinary operations at Bellevue Hospital, 1 a week for one half the year.
Practical Clinical Instruction to sections, 10 exercises for each student.

DISEASES OF THE EYE.
Clinical Lectures at the Vanderbilt Clinic, 1 a week.
Practical Instruction to sections in the use of the ophthalmoscope and in the functional examination of the eye, 10 exercises for each student.
Optional—Practical Clinical Instruction to sections at the New York Ophthalmic and Aural Institute.

DISEASES OF THE EAR.
Practical Clinical Instruction to half-sections, from 6 to 8 exercises for each student.
Four Didactic Lectures (delivered separately to each section, and in combination with a recitation) on general aural pathology and therapeutics.

EXAMINATIONS upon the work of the third year.

Fourth Year

THE PRACTICE OF MEDICINE, finished.
Lectures, 3 a week.
Clinical Lectures at the Vanderbilt Clinic, 2 a week.
Clinical Lectures or Instruction in the wards at the Roosevelt Hospital, once a week; at the New York Hospital, once a week for three months.
Practical Clinical Instruction to sections in the wards of the Roosevelt, Bellevue, or Presbyterian Hospitals, for each student, 2-hour exercises 3 times a week for 8 weeks.
Optional—Clinical Instruction in Bellevue and Presbyterian Hospitals, once a week.

DISEASES OF THE MIND AND NERVOUS SYSTEM, finished.
Lectures, 1 a week, October to March.
Clinical Lectures at the Vanderbilt Clinic, once a week.
Practical Clinical Instruction to sections in the diagnosis of diseases of the nervous system, 10 exercises for each student.

CLINICAL MICROSCOPY.
Laboratory Work, 2-hour exercises 3 times a week for 8 weeks.

THE PRINCIPLES AND PRACTICE OF SURGERY, finished.

Lectures, 2 a week.

Clinical Lectures at the Vanderbilt Clinic, 2 a week.

Required—1. *Clinical Lectures* and the witnessing of operations by sections at the New York or Roosevelt Hospital once a week.

2. *Surgical Demonstrations* at the Roosevelt Hospital, one half the class once a week for one half the year.

3. *Practical Clinical Instruction* in the wards at Bellevue Hospital for two hours three days a week for 7 weeks for each section and at St. Mary's Free Hospital for Children twice a week for 6 weeks.

4. *Operative Surgery* on the Cadaver, 12 lessons for each student.

Optional—Clinical Lectures and the witnessing of operations at the New York Hospital additional to the above and at the Presbyterian, Bellevue, St. Luke's, St. Mary's, and the General Memorial Hospitals.

ORTHOPÆDIC SURGERY.

Clinical Lectures at the Vanderbilt Clinic, 1 a week.

Practical Clinical Instruction to sections, 10 exercises for each student.

OBSTETRICS, finished.

Two weeks' residence at the Sloane Maternity Hospital and attendance upon confinements.

Practical Clinical Instruction to sections, at the Sloane Maternity Hospital, for each student, daily for 1 week.

GYNECOLOGY, finished.

Clinical Lectures at the Vanderbilt Clinic, 1 a week.

DISEASES OF CHILDREN.

Clinical Lectures at the Vanderbilt Clinic, 1 a week.

Practical Clinical Instruction to sections, 10 lessons for each student.

DISEASES OF THE SKIN.

Clinical Lectures at the Vanderbilt Clinic, 1 a week.

Practical Clinical Instruction to sections, 10 lessons for each student.

DISEASES OF THE THROAT AND NOSE.

Clinical Lectures at the Vanderbilt Clinic, 1 a week.

Practical Clinical Instruction to sections, 10 lessons for each student.

EXAMINATIONS upon the work of the fourth year.

Clinics at the Vanderbilt Clinic

Ten clinics are given each week at the Vanderbilt Clinic, as follows:

SURGICAL—Professor BULL, Thursdays, 12 M.; Professor WEIR, Mondays, 12 M.

ORTHOPÆDIC SURGERY—Professor GIBNEY; Fridays, 12 M.

DISEASES OF THROAT AND NASAL PASSAGES—Professor LEFFERTS; Mondays, 2 P. M.

DISEASES OF THE SKIN—Professor FOX; Mondays, 3 P. M.

DISEASES OF THE EYE—Professor KNAPP; Tuesdays, 2 P.M.

DISEASES OF CHILDREN—Professor JACOBI; Wednesdays, 2 P.M.

VENEREAL AND GENITO-URINARY DISEASES—Professor TAYLOR ; Thursdays, 2 P.M.

MEDICAL—Professor DELAFIELD ; Thursdays, 3 P.M.

DISEASES OF THE MIND AND NERVOUS SYSTEM—Professor STARR ; Fridays, 2 P.M.

GYNECOLOGICAL—Professor TUTTLE ; Fridays, 3 P.M.

Hospital Clinics

See the several departments. For appointments to the House Staffs of the hospitals, see page 254.

Besides the Vanderbilt Clinic, the general and special hospitals of New York afford most important fields for clinical teaching. This college is strongly represented on the staffs of these institutions, and regular clinical instruction at hospitals is made a prominent feature of the curriculum. *Admission is free* to all matriculated students. At all the following hospitals instruction is given by officers of the college :

SLOANE MATERNITY HOSPITAL, corner of Fifty-ninth Street and Amsterdam Avenue.

ROOSEVELT HOSPITAL—This has long been the seat of thorough clinical work, and has become of special importance in this respect from its position immediately opposite the new buildings of the College of Physicians and Surgeons upon Fifty-ninth Street, between Ninth and Tenth Avenues. Moreover, this hospital, a few years ago, received a bequest of several hundred thousand dollars for the erection and endowment of THE SYMS OPERATING THEATRE, which now offers unrivalled facilities for instruction in operative surgery.

THE MCLANE OPERATING THEATRE is used for operative gynecology by Professor Tuttle exclusively.

The Roosevelt is a general hospital of one hundred and ninety-five beds, and it also possesses a flourishing out-patient department.

Public clinics are given here as follows, throughout the college session :

Medical—Mondays, at 4 P.M., Professors DELAFIELD and PEABODY

Surgical—Saturdays, at 2.30 P.M., Professor MCBURNEY

Gynecological—Tuesdays, Thursdays, and Saturdays, at 2.30 P.M., Professor TUTTLE

Children's—Mondays and Thursdays, at 5 P.M., Professor JACOBI

NEW YORK HOSPITAL, Fifteenth Street, between Fifth and Sixth Avenues—Reached from the Medical College by taking the Sixth Avenue Elevated Railroad at the corner of Ninth Avenue and Fifty-ninth Street, and leaving the cars at the corner of Fourteenth Street and Sixth Avenue ; or by the surface cars.

This is a general hospital of the highest class, of one hundred and fifty beds, with an out-patient department.

The public clinics are the :

Medical—Saturdays, at 10.30 A.M., from November to May, Professors PEABODY and BALL

Surgical—Saturdays (odd dates), 3.15 P.M. Saturdays (even dates), 11.30 A.M., Professor WEIR. Saturdays, 11.30 A.M., February to June, Professor BULL. Tuesdays and Fridays, 3.30 P.M., February to June, Dr. HARTLEY

Bellevue Hospital, Twenty-sixth Street and East River—Easily reached from the college by the electric cars of the Metropolitan Traction Company, transferring to the Lexington Avenue or Second Avenue cars.

This hospital has eight hundred and fifty beds and receives sixteen thousand patients annually, of whom one fourth are in the exclusive charge of officers of this college.

The service of the out-patient department also covers a great range of practice ; and two newly built operating theatres, a large and a smaller one, are in full use.

The following clinics are held here during the session :

Medical—Tuesdays, 3.30 P.M., Professor Jacobi and Drs. James and Jackson

Venereal and Genito-Urinary—Tuesdays, 3 P.M., Professor Taylor

St. Luke's Hospital, Morningside Heights, One Hundred and Thirteenth Street and Amsterdam Avenue.

Surgical—Drs. F. H. Markoe and Robert Abbe will give a clinic to which students are admitted on Mondays, Wednesdays, and Fridays at 2.30 P.M.

Presbyterian Hospital, Madison Avenue and Seventieth Street—Accessible from the Medical School by the Fifty-ninth Street electric cars, transferring to the Madison Avenue cars, which pass the building.

This is a large general hospital of three hundred and thirty beds. The following clinics will be held here throughout the session :

Surgical—Tuesdays, 2.30 P.M., Dr. McCosh

Medical—December to May, Tuesdays, 3.30 P.M., Professor Kinnicut

Willard Parker Hospital, foot of East Sixteenth Street ; reached from the Medical School by the cars of the Metropolitan Traction Co. ; Riverside Hospital, North Brother Island, East River ; reached by special boat from the foot of East One Hundred and Thirty-eighth Street.

These hospitals, in charge of the New York City Health Department, offer a rich field for the study of *Contagious Diseases* not admitted to other hospitals in the city, such as diphtheria, scarlet fever, smallpox, typhus fever, measles, and others. Dr. J. W. Brannan gives a clinic to which students are admitted in small sections after special registration, on Tuesdays and Saturdays, at 3 P.M., in November, December, March, and April.

General Memorial Hospital, One Hundred and Sixth Street and Eighth Avenue—Elevated Railroad station, One Hundred and Fourth Street and Ninth Avenue. It can be reached also by the Eighth Avenue surface road.

Two clinics a week are held here, viz. :

Surgical—Mondays, 9 A.M., Dr. Charles N. Dowd ; Wednesdays, 9 A.M., Dr. Wm. B. Coley.

Gynecological—Tuesdays, 9 A.M., Dr. Geo. W. Jarman

New York Ophthalmic and Aural Institute, 44 and 46 East Twelfth Street—Reached by the Sixth Avenue Elevated train, which should be left at the Fourteenth Street station ; or by the Broadway cable cars.

This hospital has forty beds, and a large daily dispensary service is held for diseases of the eye and ear. Throughout the session the following clinic is held :

Ophthalmological—(Admission by invitation of sections.) Selected cases for diagnosis and treatment ; and most important operations on the Eye. Wednesdays, 2 to 3.45 P.M. Professor KNAPP

HOSPITAL FOR THE RUPTURED AND CRIPPLED, cor. Lexington Avenue and Forty-third Street—Reached by electric cars along Fifty-ninth Street, transferring to Lexington Avenue cars.

The following clinics are held here, viz. :

Fridays, 8.30 A.M., November to July, Professor BULL

Out-Patient Clinic—1 to 3 P.M., Drs. COLEY, WHITMAN, and WALKER

ST. MARY'S FREE HOSPITAL FOR CHILDREN, 405 and 407 West Thirty-fourth Street—Reached by the Ninth Avenue Elevated Railroad.

Three clinics a week are held here, viz. :

Th., 10.30–11.30 A.M., Dr. CHARLES T. POORE

Tu. and Wed., 10 A.M., Dr. CHARLES N. DOWD and Dr. G. M. SWIFT

BOARD

Information in regard to board can be obtained through the Registrar, Mr. E. T. Boag, at his office in the Medical School. Prices range from $5 to $9 per week.

CORRESPONDENCE

Letters requesting information should be addressed to Fred J. Brockway, M.D., Secretary of the Faculty, 437 West Fifty-ninth Street, New York.

EXAMINATIONS AND STANDING

Each student must be examined at the close of each session upon the work of that session.

A second examination, for candidates found deficient at the close of the first, second, or third year's work, will be held during the week before the opening of the following session.

Exemption from Physics and General Chemistry

1. Persons who have pursued successfully at colleges, scientific schools, or universities, courses in Physics, or General Chemistry, or both, substantially equivalent to those given to medical students at this University, may be exempted from the first-year work in either or both of the above subjects on presentation of properly authenticated certificates from the institutions at which the said courses were pursued.

2. Persons who have pursued elsewhere than at colleges, scientific schools, or universities, courses in Physics, or General Chemistry, or both, claimed to be substantially equivalent to those given to medical students at this University, may be exempted from the first-year work in either or both of the above subjects on passing satisfactory examinations both theoretical and practical.

Admission to Advanced Standing

Admission may be granted to advanced standing at the beginning of the second or of the third year, but not of the fourth year without the special consent of the Faculty.

Every applicant for advanced standing will be required (1) to present satisfactory evidence of having attended, in a recognized medical school (or, *for General Chemistry or Physics* in a recognized college, scientific school, or university), courses reasonably equivalent to those already attended by the class to which he seeks admission ; (2) to be examined for admission in all the subjects in which the said class shall have been examined already ; (3) to present a medical-student certificate from the Regents of the University of the State of New York ; (4) to matriculate with the payment of the regular matriculation fee (five dollars).

A candidate for admission to advanced standing at the beginning of the second or third year may be so admitted either unconditionally or conditionally. In the latter case, his admission will be upon the same terms as govern students who have pursued at this college the curriculum of the first or second year.

During the week before the opening of each session there will be held examinations upon the work done during the previous session in each department of the first, second, and third years of the course, which examinations will be open both to candidates found deficient at the end of the previous session, and to candidates for admission to advanced standing at the beginning of the second, third, or fourth year.

Standing at the End of the First Year

The standing of a student for the first year will be determined as follows :

1. *Physiology*, by an examination in writing upon the lectures and demonstrations of the year.

2. *Anatomy*, by (*a*) a record of the student's practical work during the year ; (*b*) practical examination ; (*c*) a brief examination in writing.

3. *Normal Histology*, as for Anatomy.

4. *General Chemistry*, by (*a*) a record of the student's practical work during the year ; (*b*) a practical examination ; (*c*) an examination in writing.

5. *Physics*, by (*a*) a record of the student's practical work during the year ; (*b*) a practical examination ; (*c*) an examination in writing.

A bad record of practical work in a department may bar a student from examination ; or a bad practical examination may bar him from an examination in writing ; the result in either case being failure in the year's work in that department.

No student will be permitted to advance with his class from the first to the second year, unless his standing shall have been found satisfactory, before the beginning of the work of the second year, in four out of the five departments of (1) Physics ; (2) General Chemistry ; (3) Anatomy ; (4) Normal Histology ; (5) Physiology.

A student found deficient in the autumn in more than one subject of the first year will be obliged to repeat the work of the year in all the departments in which he shall have been found deficient, and to pay a tuition fee of $50 per department, provided the amount thus charged does not exceed the tuition of the year.

A student found still deficient at the end of the second year in one of the

subjects of the first year, may advance with his class provided he fails at the spring examination in not more than one of the studies of the second year, and provided that he makes good his deficiency in the first-year study before entering upon the work of the third year.

Standing at the End of the Second Year

The standing, in the respective departments, of a student at the end of his second year will be based upon the following tests, to be applied by, or under the direction of, the Professor in charge of the department unless otherwise expressly specified :

Anatomy.

(1) A record of practical work during the year.
(2) A practical examination in Anatomy.
(3) A written examination, of a length to be determined by the Professor, and to be judged directly by him.

Normal Histology.

(1) A record of practical work during the year.
(2) A practical examination in Normal Histology.
(3) A brief written examination, of a length to be determined by the Professor of Pathology.

Physiological Chemistry.

(1) A record of practical work during the year.
(2) The filing of a satisfactory book of notes upon the laboratory work of the entire course.
(3) A written examination upon the lectures, conferences, and practical work of the course, the length and character of the examination to be determined by the Director of the department.

Physiology.

A written examination, of a length to be determined by the Professor, and to be judged directly by him, upon the subjects covered by the lectures and demonstrations of the year.

Materia Medica and Therapeutics.

A written examination, of a length to be determined by the Professor, and to be judged directly by him, upon the subjects covered by the instruction of the year.

Bacteriology.

(1) A record of practical work during the year.
(2) A practical examination in Bacteriology.
(3) A brief written examination, of a character to be determined by the Professor of Pathology.

Pathological Anatomy.

Attendance at autopsies. No tests.

Obstetrics.

A written examination, of a length to be determined by the Professor, upon the subjects covered by the instruction of the year.

Gynecology.

A written examination, of a length to be determined by the Professor, upon the subjects covered by the instruction of the year.

No student will be permitted to advance with his class from the second to the third year unless (A) his standing shall have been found satisfactory, before the beginning of the work of the third year, in *six* out of the *eight* studies of (1) Physiology, (2) Materia Medica and Therapeutics, (3) Obstetrics, (4) Gynecology, (5) Anatomy, (6) Normal Histology, (7) Bacteriology, (8) Physiological Chemistry ; and unless (B) the six studies in which his standing shall have been found satisfactory, as above, include not less than two of the following four studies, viz.: (1) Anatomy, (2) Normal Histology, (3) Bacteriology, and (4) Physiological Chemistry.

A student of the second year found deficient according to the terms of the above may be permitted to advance with his class, but must make good all deficiences before entering upon the exercises of his fourth year.

The annual examinations will be held after the close of the second year's instruction ; and further examinations, for candidates found deficient, will be held during the week before the opening of the following session.

A candidate for admission to advanced standing at the beginning of the third year may be so admitted either unconditionally or conditionally. In the latter case, his admission will be upon the same terms as govern students who have pursued at this college the curriculum of the second year.

Standing at the End of the Third Year

The standing, in the respective departments, of a student at the end of his third year will be based upon the following tests, to be applied by, or under the direction of, the Professor in charge of the department, unless otherwise expressly specified :

Materia Medica and Therapeutics.

A written examination, of a length to be determined by the Professor, and to be judged directly by him, upon the subjects covered by the instruction of the year.

Pathological Anatomy.

Attendance at demonstrations. A written examination, with Pathological Histology.

Pathological Histology.

(1) A record of practical work during the year.
(2) A practical examination in Pathological Histology.
(3) A written examination, of a length to be determined by the Professor of Pathology, and to be judged directly by him.

The Practice of Medicine.

(1) A record of practical work during the year in Physical Diagnosis.
(2) A written examination, of a length to be determined by the Professor, and to be judged directly by him, upon the subjects covered by the instruction of the year.

Diseases of the Mind and Nervous System.

A written examination, of a length to be determined by the Professor, and to be judged directly by him, upon the subjects covered by the instruction of the year.

The Principles and Practice of Surgery.

(1) A record of practical work during the year in Clinical Surgery.

(2) A written examination, of a length to be determined by the Professors, and to be judged directly by them, upon the subjects covered by the instruction of the year.

Obstetrics.

A written examination, of a length to be determined by the Professor, and to be judged directly by him, upon the subjects covered by the instruction of the year.

Gynecology.

(1) A record of practical work during the year in Clinical Gynecology.

(2) A written examination, of a length to be determined by the Professor, and to be judged directly by him, upon the subjects covered by the instruction of the year.

Venereal Diseases.

(1) A record of practical work during the year.

(2) A written examination, upon the subjects covered by the instruction of the year, to be conducted and judged by the Professor.

Diseases of the Eye.

(1) A record of practical work during the year.

(2) A written examination upon the subjects covered by the instruction of the year, to be conducted and judged by the Professor.

Diseases of the Ear.

(1) A record of practical work during the year.

(2) A written examination upon the subjects covered by the instruction of the year, to be conducted and judged by the Professor.

No student will be permitted to advance with his class from the third to the fourth year unless he presents satisfactory records of practical work in Pathological Histology, Physical Diagnosis, Clinical Surgery, Clinical Gynecology, Venereal Diseases, Diseases of the Eye, and Diseases of the Ear.

By a satisfactory record is meant a certificate of punctual attendance, unless prevented by illness or unavoidable causes, on the practical courses. These courses can only be taken during the third year, so that they cannot be made up at a later time.

In addition, the student must pass satisfactory written examinations on Materia Medica and Therapeutics, Pathological Histology, Practice of Medicine, Diseases of the Mind and Nervous System, Surgery, Obstetrics and Gynecology, Venereal Diseases, Diseases of the Eye, and Diseases of the Ear.

A student found deficient in only three of the seven departments of Materia Medica and Therapeutics, Pathological Histology, Practice of Medicine, Diseases of the Mind and Nervous System, Surgery, Obstetrics, and Gynecology

and in only two of the three departments of Venereal Diseases, Diseases of the Eye, and Diseases of the Ear, can advance with his class provided that he makes up all but one of the five subjects on which he is conditioned before October 8 of the fourth year.

Standing at the End of the Fourth Year, and Final Examinations

The standing, in the respective departments, of a student at the end of his fourth year will be based upon the following tests, to be applied by, or under the direction of, the Professor in charge of the department, unless otherwise expressly specified :

Clinical Microscopy.

(1) A record of practical work during the year.
(2) A practical examination in Clinical Microscopy.
(3) A written examination, of a length to be determined by the Professor of Pathology.

The Practice of Medicine.

(1) A record of practical work during the year in Clinical Medicine.
(2) A written examination, of a length to be determined by the Professor, and to be judged directly by him, upon the subjects covered by the instruction of the year.

The Diseases of the Mind and Nervous System.

(1) A record of practical work during the year in the diagnosis of nervous diseases.
(2) A written examination, of a length to be determined by the Professor, and to be judged directly by him, upon the subjects covered by the instruction of the year.

The Principles and Practice of Surgery.

(1) A record of practical work during the year in Clinical Surgery.
(2) A record of practical work during the year in Operative Surgery upon the cadaver.
(3) A written examination, of a length to be determined by the Professors, and to be judged directly by them, upon the subjects covered by the instruction of the year.

Obstetrics.

A record of practical work during the year in Clinical Obstetrics, including attendance upon confinements.

Diseases of Children.

(1) A record of practical work during the year.
(2) A written examination upon the subjects covered by the instruction of the year, to be conducted and judged by the Professor.

Diseases of the Skin.

(1) A record of practical work during the year.
(2) A written examination upon the subjects covered by the instruction of the year, to be conducted and judged by the Professor.

Diseases of the Throat and Nose.

(1) A record of practical work during the year.

(2) A written examination upon the subjects covered by the instruction of the year, to be conducted and judged by the Professor.

Orthopædic Surgery.

(1) A record of practical work during the year.

(2) A written examination upon the subjects covered by the instruction of the year, to be conducted and judged by the Professor.

No student will be recommended for the degree of M.D. unless he shall have passed satisfactory records of practical work during the fourth year in Clinical Microscopy, Clinical Medicine, the Diagnosis of Nervous Diseases, Clinical Surgery, Operative Surgery upon the cadaver, Diseases of Children, Diseases of the Skin, Diseases of the Throat and Nose, Orthopædic Surgery, and Clinical Obstetrics, including attendance upon confinements. By a satisfactory record is meant a certificate of punctual attendance upon the practical courses, unless prevented by illness or unavoidable causes.

In addition, a candidate for graduation must pass a satisfactory practical examination in Clinical Microscopy, and satisfactory written examinations in the following subjects of the fourth year, viz.: (1) Practice of Medicine, (2) Diseases of the Mind and Nervous System, (3) Principles and Practice of Surgery, (4) Clinical Microscopy, (5) Diseases of Children, (6) Diseases of the Skin, (7) Diseases of the Throat and Nose, and (8) Orthopædic Surgery.

A student of the fourth year found deficient on examination in the spring in not more than three of the following eight departments, viz.: (1) Practice of Medicine, (2) Diseases of the Mind and Nervous System, (3) Principles and Practice of Surgery, (4) Clinical Microscopy, (5) Diseases of Children, (6) Diseases of the Skin, (7) Diseases of the Throat and Nose, and (8) Orthopædic Surgery, *provided the three departments in which he has been found deficient do not include more than one of the following departments*, viz.: (1) Practice of Medicine, (2) Diseases of the Mind and Nervous System, (3) Principles and Practice of Surgery, must present himself for re-examination the following autumn in all the departments in which he failed in the preceding spring. If at such re-examination the student be found deficient in *any* department or departments, he will be obliged to repeat the work of the fourth year in such department or departments, paying a special tuition fee of $50 per department, and to present himself for re-examination the following spring in every subject in which he shall have failed. If at such second re-examination he shall fail again in *any* department, he will cease to be considered a candidate for a degree.

A student found deficient in the spring in more than one of the three following departments, viz.: (1) Practice of Medicine, (2) Diseases of the Mind and Nervous System, (3) Principles and Practice of Surgery, or more than three departments altogether, will be obliged to repeat the work of the fourth year in all of the departments in which he shall have been found deficient, and to pay a tuition fee of $50 per department.

Such a student will be required to present himself for re-examination the following spring in every subject in which he shall have failed. If at such re-examination he shall fail again in any department or departments, he must be re-examined therein the following autumn. If at such re-examination he shall again fail in *any* department, he will cease to be considered a candidate for a degree.

REQUIREMENTS FOR GRADUATION

Every candidate before admission to the degree of M.D. will be required:

1. To present satisfactory evidence, as required by law, of good moral character, and of having attained the age of twenty-one years.

2. To present evidence of having complied with the requirements for admission.

3. To have attained to satisfactory standing in the required studies of the four years of the curriculum.

4. A candidate who shall have been admitted to advanced standing will be required to have spent not less than four academic years at the studies referred to in the clause next preceding; and to have complied successfully with the requirements for admission to advanced standing.

No two academic years which shall have begun during the same calendar year will be held to satisfy the requirements of the above clause.

THE DEGREE OF MASTER OF ARTS

The degree of Master of Arts may be conferred upon students holding college degrees, who shall have completed with distinction the entire course of the School of Medicine, provided that in each case the candidate presents a satisfactory dissertation, and that at least a part of the extra work required of him for the degree of Master of Arts be taken under the direction of the Faculty of Philosophy, Political Science, or Pure Science, to the extent of one minor course, for not less than one year.

Students in the School of Medicine who are candidates for the degree of Master of Arts, in accordance with the above paragraph, are subject to the regulations of the Faculty of Philosophy, Political Science, or Pure Science, under which the extra work is taken, and which finally recommends the candidates for the degree. Such students should apply to the Dean of the same faculty for a registration-book.

HOSPITAL APPOINTMENTS

Positions on the house staff of various hospitals in the city are filled by competitive examinations, open to graduates of this college. Among these hospitals are Bellevue Hospital; the New York Hospital; the Roosevelt Hospital; St. Luke's Hospital; the City Hospital, Blackwell's Island; St. Vincent's Hospital; St. Francis' Hospital; the German Hospital; the Mount Sinai Hospital; the Presbyterian Hospital; the Woman's Hospital; the Brooklyn Hospital; St. Catherine's Hospital, Brooklyn; St. Peter's Hospital, Brooklyn; the King's County Hospital, Flatbush, L. I., and about thirty others.

ALONZO CLARK SCHOLARSHIP

See page 31.

FELLOWSHIPS

For the University Fellowships, see page 20.
For the Alumni Association Fellowships, see page 30.
Proudfit Fellowship, see page 31.

PRIZES

For the Harsen Prizes for clinical reports, see page 31.
For the Harsen Prizes for proficiency at examination, see page 31.
For the Alumni Association Prize, see page 32.
For the Cartwright Prize, see page 32.
For the Stevens Triennial Prize, see page 32.
For the Joseph Mather Smith Prize, see page 33.

EQUIPMENT AND COLLECTIONS

Detailed information as to the laboratories, collections, and other facilities for study will be found in the statements of the various departments of instruction, pages 49 to 182.

REQUIREMENTS FOR LICENSE TO PRACTISE MEDICINE IN NEW YORK STATE

All requirements for admission should be completed at least one week before examinations.—They are as follows:

1. Evidence that applicant is more than 21 years of age (Form 1).

2. Certificate of moral character from not less than two physicians in good standing (Form 2).

3. Evidence that applicant has the general education required, preliminary to receiving the degree of Bachelor or Doctor of Medicine in this State (medical-student certificate. See examination handbook).

4. Evidence that applicant has studied medicine not less than four full school years of at least nine months each, in four different calendar years, in a medical school registered as maintaining at the time a satisfactory standard. New York medical schools and New York medical students shall not be discriminated against by the registration of any medical school out of the State, whose minimum graduation standard is less than that fixed by statute for New York medical schools.

The increase in the required course of medical study from three to four years did not take effect till January 1, 1898, and does not apply to students who matriculated before that date and received the degree of M.D. before January 1, 1902 (Form 1).

First exemption: "The regents may in their discretion accept, as the equivalent for any part of the third and fourth requirements, evidence of five or more years' reputable practice of medicine, provided that such substitution be specified in the license."

5. Evidence that applicant "has received the degree of bachelor or doctor of medicine from some registered medical school, or a diploma or license conferring full right to practise medicine in some foreign country" (Form 3 or original credentials).

6. The candidate must pass examinations in anatomy, physiology and hygiene, chemistry, surgery, obstetrics, pathology and diagnosis, therapeutics, practice, and materia medica. The questions "shall be the same for all candidates, except that in therapeutics, practice, and materia medica all the questions submitted to any candidate shall be chosen from those prepared by the board selected by that candidate, and shall be in harmony with the tenets of that school as determined by its state board of medical examiners."

Second exemption: "Applicants examined and licensed by other state examining boards registered by the regents as maintaining standards not lower than those provided by this article, and applicants who matriculated in a New York state medical school before June 5, 1890, and who received the degree of M.D. from a registered medical school before August 1, 1895, may without further examination, on payment of $10 to the regents and on submitting such evidence as they may require, receive from them an indorsement of their licenses or diplomas, conferring all rights and privileges of a regents' license issued after examination."

7. A fee of $25, payable in advance.

Medical Examinations

Examinations for license to practise medicine in this State will be held as follows:

DATES

1900

January....23–26
May.....22–25
June.....19–22
September..25–28

Each candidate is notified as to the exact place.

Address all communications concerning license examinations to *Examination Department, University of the State of New York, Albany, N. Y.*

REGISTER OF STUDENTS

FOURTH YEAR CLASS

Abbott, Theodore Jacob, A.B., *Harvard*.....Cornwall, N. Y.
Adams, Charles Baker, A.B., *Amherst*.....Amherst, Mass.
Agatstein, Sigmund Arthur.....(Mhtn) New York City
Alexander, David Esterbrook.....(Mhtn) New York City
Allen, William Thomas.....(Bklyn) New York City
Alsberg, Carl Lucas, A.B., *Columbia*.....(Mhtn) New York City
Ballin, Milton Julius, Ph.B., *Yale*.....(Mhtn) New York City
Bandler, Leon.....(Mhtn) New York City
Banta, Edward Woodruff.....(Mhtn) New York City
Bebee, Edwin Lorendus, A.B., *Amherst*.....Westfield, N. Y.
Bernstein, Eugene Paul, B.S., *N. Y. City College*.....(Mhtn) New York City
Bieber, Joseph.....(Mhtn) New York City
Bingham, Arthur Walker, A.B., *Yale*.....West Cornwall, Vt.
Black, John Fielding James, V.S., *Ontario*.....Dublin, Ireland
Blumenthal, Jules Leon.....(Mhtn) New York City
Breckwedel, Harry Benjamin.....(Mhtn) New York City
Brinsmade, Daniel Bradley, A.B., *Yale*.....Washington, Conn.
Brooke, William Wallace.....Bayonne, N. J.
Brown, Thomas Evans Westman, B.S., *University of North Carolina*, Asheville, N. C.
Byington, Roderick, B.S., *Princeton*.....(Mhtn) New York City
Cassebeer, Henry Arthur, Jr., A.B., *Harvard*.....(Mhtn) New York City
Celler, Herbert Louis, A.B., *Columbia*.....(Mhtn) New York City
Cochran, Guy Hunt, A.B., *Leland Stanford, Junior*.....Los Angeles, Cal.
Cochrane, Frank Lawrence.....(Bklyn) New York City
Connell, Karl Albert.....Omaha, Neb.
Crampton, Charles Ward.....(Mhtn) New York City
Crane, Claude Granville.....Middletown, N. Y.
Cronin, William Daniel.....New London, Conn.
Cross, Frank Bethel.....(Mhtn) New York City
Darling, Everett Field, B.S., *Worcester Tech*..... Mendon, Mass.
Deely, George Edward, A.B., *Williams*.....Lee, Mass.
Dempewolff, Augustus Fred.....(Mhtn) New York City
Ditman, Norman Edward, Ph.B., *Yale*.....Englewood, N. J.
Dodd, Edward Lewis, A.B., *Princeton*.....Newark, N. J.
Dorman, Harry Gaylord, A.B., *Harvard*.....Upper Montclair, N. J.

Driscoll, Daniel Michael.....Norwich, Conn.
Duffield, Francis, A.B., *Harvard*.....Detroit, Mich.
Dwyer, Joseph William.....Garfield, N. J.
Everitt, Chauncey Valentine.....Jersey City, N. J.
Fahnestock, Clarence.....(Mhtn) New York City
Fahnestock, Ernest.....(Mhtn) New York City
Fendrich, Adam Edward.....Highwood Park, N. J.
Fowler, Edmund Prince.....(Mhtn) New York City
Frank, Robert Tilden, A.B., *Harvard*.....(Mhtn) New York City
Frissell, Lewis Fox, A.B., A.M., *Yale*.....(Mhtn) New York City
Funk, John Arthur, A.B., *New York University*.....(R) New York City
Gershel, Milton, B.S., *N. Y. City College*.....(Mhtn) New York City
Goodman, Marcus Leopold.....(Mhtn) New York City
Graham, James Frank.....Memphis, Tenn.
Grant, James Edward.....Hamilton, N. Y.
Grausman, Philip Michael.....Raleigh, N. C.
Green, Stith Gordon, A.B., *Millsop College*.....Jackson, Miss.
Halsey, Robert Hurtin, A.B., *Columbia*.....(Q) New York City
Hanscom, Howard Chapin, A.B., *Colby*.....(Mhtn) New York City
Hayt, Ralph Augustus.....Fishkill, N. Y.
Henriquez, Charles Louis, B.S., *Seton Hall*.....(Mhtn) New York City
Hensel, Otto, Ph.G., *College of Pharmacy*.....(Mhtn) New York City
Holmes, George Jenkinson.....West Summit, N. J.
Honnet, Joseph Harry.....Wilmington, N. C.
Hooker, Ransom Spafard, B.L., *Hobart*.....(Mhtn) New York City
Hoole, Lester Page, A.B., *Yale*.....(Bklyn) New York City
Horowitz, Jacob.....(Mhtn) New York City
Horsford, Frederick Charles, Ph.G., *College of Pharmacy*..Ogdensburg, N. Y.
Hubschmitt, Adam Wendell, A.B., *N. Y. City College*.(Mhtn) New York City
Hutton, Edward Hyatt, A.B., *Williams*.....Corning, N. Y.
Hynes, Edward Gibson, A.B., A.M., *St. Francis Xavier*,
(Bklyn) New York City
Jacoby, Leo.....(Mhtn) New York City
Jedel, Meyer.....Newark, N. J.
Johnson, Philip Van Kuren.....Denver, Colo.
Jones, Mortimer Dunham.....(Q) New York City
Kahn, Samuel.....(Mhtn) New York City
Kelly, Aquinas Sarsfield.....(Mhtn) New York City
Kennedy, Thomas Joyce Lenox.....(Mhtn) New York City
Kirkman, Leroy Gresham, A.B., *Princeton*.....Port Jervis, N. Y.
Knowles, Frederick.....(Mhtn) New York City
Knudsen, Arthur Sinclair, A.B., *Harvard*.....Kanai, Hawaiian Islands
Koronefsky, Jacob.....(Mhtn) New York City
Krebs, Maurice Hill.....(Mhtn) New York City
Krug, Ernest Frederick.....Cleveland, O.
Landes, Edwin Walter.....Newark, N. J.
Lathrop, Samuel Salisbury.....Norwich, Conn.

Lebhar, Norman Jacob.....(Mhtn) New York City
Levy, Edward.....(Mhtn) New York City
Lobenstine, Ralph Waldo, A.B., *Yale*.....(Mhtn) New York City
Love, Leslie Clifford, A.B., *Princeton*.....Montclair, N. J.
Lyle, Henry Hamilton Moore.....Hamilton, Canada
Macdougall, Geoffrey Westropp.....Toronto, Canada
Mantinband, Jacob.....(Mhtn) New York City
Margulies, Irving.....(Mhtn) New York City
Margulis, Jacob.....(Mhtn) New York City
Marsh, Elias Joseph, Jr., A.B., *Harvard*.....Paterson, N. J.
Martin, Paul Frederic, M.D., *Medical College of Indiana*...Indianapolis, Ind.
Martin, Thomas Aloysius, B.S., *N. Y. City College*....(Mhtn) New York City
Martin, Urban Francis, B.S., *N. Y. City College*.....(R) New York City
Mason, Lucius Julius, B.L., *Dartmouth*.....(Mhtn) New York City
McLaughlin, Andrew Joseph.....Norwich, Conn.
Menk, Paul Ernest William, Ph.G., *College of Pharmacy*.....Newark, N. J.
Miller, Franklyn Henry.....(Bklyn) New York City
Millspaugh, Willard Pierrepont, A.B., *Williams*.....(R) New York City
Montgomery, Walter Clark.....(Mhtn) New York City
Moore, Clifford Colgate.....(Mhtn) New York City
Moschcowitz, Eli, A.B., *N. Y. City College*.....(Mhtn) New York City
Moss, L. Howard.....Brantford, Ontario
Mund, Conrad, A.B., *N. Y. City College*.....(Mhtn) New York City
Navoni, James Frank.....(Mhtn) New York City
Noonan, Cornelius James.....(Bklyn) New York City
North, Charles Edward, A.B., *Wesleyan*.....Montclair, N. J.
O'Dwyer, Joseph.....(Mhtn) New York City
Orgel, David Henry.....(Mhtn) New York City
Packard, Maurice, Ph.B., *Syracuse*.....Syracuse, N. Y.
Pannaci, Charles Emonual Eugene.....Sea Bright, N. J.
Pascual, William Vincent.....(Bklyn) New York City
Patterson, Henry Stuart, A.B., *Williams*.....(Mhtn) New York City
Pearson, Charles Edward.....(R) New York City
Pilcher, Paul Monroe, B.S., *Univ. of Mich*.....(Bklyn) New York City
Pindar, Frederick Standish.....Middleburg, N. Y.
Pittman, John Green, A.B., *Univ. of Georgia*.....Atlanta, Ga.
Plotz, Isaac Israel.....(Mhtn) New York City
Polatsak, Henry Benjamin.....(Mhtn) New York City
Porter, Elisha Pender, A.B., *Davidson*.....Rocky Point, N. C.
Quel, Barnett.....(Mhtn) New York City
Quinby, William O'Gorman.....Newark, N. J.
Rabinovitz, Meyer.....(Mhtn) New York City
Reichers, George Henry.....(Bklyn) New York City
Reinsberg, Charles Hermann, A.M., *Princeton*.....(Mhtn) New York City
Reiss, Henry.....(Mhtn) New York City
Reynolds, Harry Badger, A.B., *Leland Stanford, Junior*..San Francisco, Cal.
Roos, Lester Laurens.....(Mhtn) New York City

Rosensohn, William, A.B., *N. Y. City College*.....Passaic, N. J.
Rowe, Norman Leslie, Jr.....Jersey City, N. J.
Satterlee, Henry Suydam, A.B., *Harvard*.....(Mhtn) New York City
Saunders, Norman Brown.....Forestville, N. Y.
Seelig, Major Gabriel, A.B., *Harvard*.....Helena, Ark.
Shanahan, Robert Henderson.....Tarrytown, N. Y.
Shangle, Milton Allison.....Roselle, N. J.
Simon, Theodore William.....(Mhtn) New York City
Smith, Fred Willard.....Richfield Springs, N. Y.
Smith, Harry Victor Aloysius.....Jersey City, N. J.
Smith, Philip.....Scranton, Pa.
Spaulding, Alfred Baker, A.B., *Leland Stanford, Junior*.....Atchison, Kan.
Stern, Max.....Newark, N. J.
Stewart, James Fleury.....Cold Spring Harbor, N. Y.
Stradling, Frank.....Hamilton, N. Y.
Todd, Luther Anson.....Atchison, Kan.
Toering, Albert John.....Newark, N. J.
Tomlinson, Rolland Davis.....Plainfield, N. Y.
Trudeau, Edward Livingston, Jr., A.B., *Yale*.....Saranac Lake, N. Y.
Van Der Clock, Cornelius.....Paterson, N. J.
Van Doren, George Bickford, A.B., *Brown*.....Chaumont, N. Y.
Van Vranken, Albert Bensen, Ph.B., *Union*.....(Bklyn) New York City
Vogel, Karl Max, Ph.G., *College of Pharmacy*.....(Mhtn) New York City
Vreeland, Clarence Le Fever.....(Mhtn) New York City
Walker, Isaac Leander.....Waverly, N. Y.
Washburn, Philip Carter, A.B., *Trinity*.....Hartford, Conn.
Wason, David Boughton.....(R) New York City
Watson, Elbert Lycurgus.....Newport, Ark.
Weber, Leonard Gruner.....(Mhtn) New York City
Weed, Vernooy Wayland.....(Bklyn) New York City
Weil, Richard, A.B., *Columbia*.....(Mhtn) New York City
Weinstein, Julius William.....(Mhtn) New York City
Weiss, Louis.....Newark, N. J.
Weisse, Faneuil Suydam, A.B., *Columbia*.....(Mhtn) New York City
Welch, John Edgar, A.B., *Wesleyan*.....Bloomington, Ill.
Wells, Jonathan Godfrey.....Southport, Conn.
Wheeler, William Louis, B.S., *Colgate*.....(Mhtn) New York City
White, John Francis.....Rome, N. Y.
Whitenack, Miller Royal, B.S., *Rutgers*.....Newark, N. J.
Wilson, Arthur Starkey.....(Mhtn) New York City
Wilson, Edward Earl.....Dallas, Texas
Wilson, William Caldwell.....Blossburg, Pa.
Winchester, Walter Henry.....(Mhtn) New York City
Winter, Allen Lawrence.....Bloomington, Ill.

Fourth Year Class.....172

THIRD YEAR CLASS

Adelsohn, Jonas.....(Mhtn) New York City
Adler, Hermann Morris, A.B., *Harvard*.....(Mhtn) New York City
Alexander, Alexander John Aitcheson, A.B., *Princeton*...Spring Station, Ky.
Alter, Julius Elmer.....(Mhtn) New York City
Bainton, Joseph Hector, A.B., *St. Francis Xavier*.....(Mhtn) New York City
Baird, Addison Waddell.....(Mhtn) New York City
Barton, Francis William, B.S., *Notre Dame*.....Danville, Ill.
Bauman, Louis.....(Mhtn) New York City
Bayles, Howard.....White Plains, N. Y.
Benedict, Alfred Chapman, B.S., *N. Y. University*....(Mhtn) New York City
Beveridge, James Wallace.....New Rochelle, N. Y.
Bill, Philip Worcester, Ph.B., *Yale*.....Bridgeport, Conn.
Bliss, Robert Franklin.....(Bklyn) New York City
Blue, John Howard, B.S., *Univ. of Alabama*.....Montgomery, Ala.
Bohm, Oscar Henry.....Neperan, N. Y.
Bolduan, Charles Frederick, Ph.G., *College of Pharmacy*,
(Bklyn) New York City
Bookman, Arthur, A.B., *Columbia*.....(Mhtn) New York City
Britenstool, Harry.....(Mhtn) New York City
Bryant, Robert Rindell.....High Bridge, N. J.
Buchtel, Frost Craft.....East Orange, N. J.
Buerger, Leo, A.B., *N. Y. City College*.....(Mhtn) New York City
Buffington, Ralph Edward.....Short Hills, N. J.
Bulkley, Lucius Constant, A.B., *Columbia*.....(Mhtn) New York City
Cairns, Douglas Walker.....(Mhtn) New York City
Charlton, Herbert Richard.....Mount Vernon, N. Y.
Cimiotti, Walter Frank.....(Mhtn) New York City
Cohn, Herman.....Newark, N. J.
Condit, Joseph Dayton, A.B., *Wabash College*.....Terre Haute, Ind.
Cooke, Albert Samuel.....Whitehall, N. Y.
Cram, George Eversleigh, Ph.B., *Yale*.....Norwalk, Conn.
Creeden, Edward Lawrence, A.B., *St. Francis Xavier*.(Mhtn) New York City
Cunningham, Joseph Atwood, A.B., *N. Y. City College*.....Islip, N. Y.
Curran, John Dickinson, B.S., *Cornell*.....Binghamton, N. Y.
Curran, Philip John.....Portland, Conn.
Darrach, William, A.B., *Yale*.....Germantown, Pa.
Day, Arthur Winfield, A.B., *Dartmouth*.....(Bklyn) New York City
de Castro, Raimundo, Jr., A.B., *Univ. of Havana*.....Havana, Cuba
De Long, Faust Stansfield.....Richfield Springs, N. Y.
Deming, Dudley Brainard, Ph.B., *Yale*.....Litchfield, Conn.
Donohue, Francis Bernard, A.B., *Seton Hall*.....Paterson, N. J.
Dunseith, James Gracey.....(Mhtn) New York City
Engel, Walter Frederick.....(Bklyn) New York City
Flood, George John Balleray.....Waterville, Me.
Foehrenbach, Herman P., A.B., *N. Y. City College*....(Mhtn) New York City
Frazer, Harvey Thompson, B.S., *Princeton*.....Newark, N. J.

Fulda, Carl.....(Bklyn) New York City
Gabriel, Charles John.....Newark, N. J.
Gale, Sparrell Simmons, A.B., *Roanoke College*.....Roanoke, Va.
Gibbs, James Philip, A.M., *Southwestern Univ*.....Huntsville, Tex.
Gieschen, Albert Henry, Ph.G., *College of Pharmacy*..(Mhtn) New York City
Gillette, Curtenius, A.B., *Yale*.....(Mhtn) New York City
Goldman, Charles.....(Mhtn) New York City
Goodridge, Frederic Grosvenor, A.B., *Harvard*.....(Mhtn) New York City
Greil, Gaston, B.S., *Alabama Polytech. Inst*.....Montgomery, Ala.
Gretsch, Bernard Joseph, LL.B., *N. Y. University*....(Mhtn) New York City
Grossman, Louis.....(Mhtn) New York City
Grout, Gerald Harrison.....Saginaw, Mich.
Gunter, Clarence.....Montgomery, Ala.
Hart, George Washington.....(Bklyn) New York City
Hartman, William Lewis, Ph.B., *N. Y. University*...(Mhtn) New York City
Haussling, Francis Raynolds, B.S., *Princeton*.....Newark, N. J.
Haven, Samuel Carruth, A.B., *Amherst*.....Morristown, N. J.
Hervey, Allan Moore, A.B., *Harvard*.....Boston, Mass.
Hess, Alfred Fabian, A.B., *Harvard*.....(Mhtn) New York City
Hodgson, Frederick Grady..... Athens, Ga.
Hume, Eugene Francis.....Silver Creek, Ky.
Hyde, Oliver Thompson, B.S., *Amherst*.....Ellington, Conn.
Jackson, Frank Hussey, Jr.....Providence, R. I.
Jacobs, Eshoo, B.S., *Oroomiah College*.....Oroomiah, Persia
Jarmulowsky, Harry.....(Mhtn) New York City
Jellinghaus, Charles Frederic, A.B., *N. Y. City College*.(Mhtn) New York City
Jones, Willis Bryant.....Newnan, Ga.
Judd, James Robert, A.B., *Yale*.....Honolulu, Hawaiian Islands
Kramer, David.....(Mhtn) New York City
Lehmacher, Frank.....Newark, N. J.
Levy, David Heine.....(Mhtn) New York City
Levy, Isaac Harris.....(Mhtn) New York City
Lewis, James Hoyt, A.B., *Yale*.....(Mhtn) New York City
Leyenberger, Samuel Boughton Whitman.....Newark, N. J.
Loizeaux, Edward Sanderson.....Plainfield, N. J.
McCarthy, Joseph Francis, Phar.D., *College of Pharmacy*.....Yonkers, N. Y.
McCully, Rob Roy, Ph. G., *College of Pharmacy*.....(Mhtn) New York City
McEntee, Edward James.....(Bklyn) New York City
McFarland, William Landram.....(Mhtn) New York City
McGill, Elisha Leavenworth.....Petersburg, Va.
McKelvy, James Percy.....Braddock, Pa.
McKenzie, Edward Townsend, A.B., *N. Y. University*.....Rahway, N. J.
Meagher, John Francis Wallace.....(Bklyn) New York City
Merchant, Marcius Harold, B.P., *Brown*.....Warren, R. I.
Mitchell, Robert Jack.....(Mhtn) New York City
Moynan, William Thomas.....(Bklyn) New York City
Mulcahy, Thomas Aloysius.....Hartford, Conn.

Newman, Serenus Lazarus.....(Mhtn) New York City
Oppenheimer, Bernard Sutro, A.B., *Harvard*.....(Mhtn) New York City
Pelgram, George Oscar.....(Mhtn) New York City
Pier, Victor Seymour.....Poughkeepsie, N. Y.
Pierce, Edwin Francis, A.B., *Bates*.....Lewiston, Me.
Pinneo, Frank Wilcox..... Newark, N. J.
Post, Wilfred McIlvaine, A.B., *Princeton*..... Beirût, Syria
Prentice, Alfred Carlyle, A.B., A.M., *Alfred Univ*.....Adams Centre, N. Y.
Preston, Perry Brower..... Newark, N. J.
Reinhardt, Emanuel, A.B., *N. Y. City College*.....(Mhtn) New York City
Reisman, Samuel Charles.....(Mhtn) New York City
Reynolds, Gibson, A.B., *Univ. of Alabama* Montgomery, Ala.
Reynolds, Michael Thomas.....(Mhtn) New York City
Riggio, Louis Dominick.....(Mhtn) New York City
Rogers, Andrews, Ph.B., *Ohio State Univ*.....Columbus, O.
Rogers, John Jay, B.S., *Univ. of Wisconsin*.....Minneapolis, Minn.
Roys, Charles Kirkland, A.B., *Princeton*.....La Crosse, Wis.
Russell, James Isaac, A.B., *Univ. of Virginia*.....Winchester, Va.
Ryan, Philip Francis Xavier, A.B., A.M., *St. Francis Xavier*, (Mhtn) New York City
Sandy, William Charles, Jr., A.B., *Columbia*.....Newark, N. J.
Schaeffer, Benjamin Leonard.....(Mhtn) New York City
Schenck, Garrie Kouwenhoven Williamson, B.S., *Md. Agricul. College*, Canarsie, N. Y.
Schildecker, Charles Bushfield Pittsburgh, Pa.
Schneider, Francis Alphonse.....(Mhtn) New York City
Schulhofer, Samuel.....(Mhtn) New York City
Schultz, Alfred Paul, A.B., *N. Y. City College*.....(Mhtn) New York City
Schwartz, Henry William Bloomfield, N. J.
Schweitzer, Henry, Jr.....(Mhtn) New York City
Selleck, Ernest Edward, Ph.B., *Yale* Norwalk, Conn.
Sharp, James Clayton.....(Bklyn) New York City
Shearer, Leander Howard, A.B., *Princeton*.....(Mhtn) New York City
Shearman, Robert Willis, A.B., *Columbia*.....(Q) New York City
Shipman, Clark Smythe.....(Mhtn) New York City
Slocum, Harry Britton.....Long Branch, N. J.
Smith, Charles Hendee, B.S., *Cornell*.....Hartland, Wis.
Spiegel, Leo.....(Mhtn) New York City
Spingarn, Alexander, B.S., *N. Y. City College*.....(Bklyn) New York City
Stark, Morris, B.S., *N. Y. City College*.....(Mhtn) New York City
Stark, Nathan, B.S., *N. Y. City College*.....(Mhtn) New York City
Starr, Robert Sythoff, A.B., *Trinity*.....Hartford, Conn.
Steedly, Benjamin Broadus.....Athens, Ga.
Stetten, De Witt.....(Mhtn) New York City
Stryker, Edgar de Mott, B.S., *Rutgers*..... Raritan, N. J.
Sutphen, Edward Blair.....Newark, N. J.
Teahan, William John.....Holyoke, Mass.

Thompson, Edward Cameron, A.B., *Princeton*.....Middletown, N. Y.
Todd, George Wilson.....(Mhtn) New York City
Vandegrift, George Wonson, A.B., *N. Y. City College*..(Mhtn) New York City
Van Ingen, Philip, A.B., *Yale*.....(Mhtn) New York City
von Deesten, Henry Theodor.....Hoboken, N. J.
Vreeland, William Norbury.....Jersey City, N. J.
Walsh, James Joseph Sebastian, B.S., *Manhattan*.....Westchester, N. Y.
Wechsler, Abraham Hirsch.....(Bklyn) New York City
Weiss, Frank Henry, Ph. G., *College of Pharmacy, Northwestern Univ.*, Findlay, O.
Westcott, Clinton Stevens.....Providence, R. I.
Weygandt, Fred George.....(Bklyn) New York City
Whitbeck, Sherwood Volkert.....Hudson, N. Y.
Whitman, William Rush, A.B., *Roanoke College*.....Pulaski City, Va.
Williams, Henry Tilton.....Seneca Falls, N. Y.
Williams, Percy Herbert, A.B., *Princeton*.....(Mhtn) New York City
Williams, Thomas Marion, A.B., *Stanford Univ*.....Duo, West Va.
Witter, Orin Russell.....Chaplin, Conn.
Woglom, William Henry, Jr.....(Bklyn) New York City
Yocum, Joseph Grant.....Middletown, N. Y.
Ziegel, Herman Fred Lange, B.S., *N. Y. City College*.(Mhtn) New York City

Third Year Class.....157

SECOND YEAR CLASS

Adams, John King.....Summit, N. J.
Asch, Joseph Jefferson.....(Mhtn) New York City
Baff, Max.....Newark, N. J.
Baker, Charles Frederick.....Newark, N. J.
Barrett, Herbert Henry.....(Mhtn) New York City
Beach, Ralph Munson.....(Bklyn) New York City
Belcher, Herbert James Blauvelt.....Paterson, N. J.
Bell, Harold Walsworth.....(Mhtn) New York City
Bennett, Henry Wells Newell, A.B., *Brown*.....Manchester, N. H.
Bentz, George Henry.....(Mhtn) New York City
Betowski, Leon Stanislaus.....Waverley, N. Y.
Booth, Franklin Hendrickson, A.B., *Yale*.....(Q) New York City
Bracker, Max Henry.....(Mhtn) New York City
Braun, Alfred, A.B., *N. Y. City College*.....(Mhtn) New York City
Bridge, George Alexander, A.B., *Yale*.....Hazardville, Conn.
Brown, Sherman.....Bloomfield, Ontario
Busck, Gunni Julius.....(Mhtn) New York City
Butts, Arthur Clarkson, Jr.....(Mhtn) New York City
Carpender, John Neilson, Jr., B.S., *Rutgers*.....New Brunswick, N. J.
Chancellor, Charles Hurst.....(Mhtn) New York City
Chibas, Lino Sisto Felicisimo.....Guantanamo, Cuba
Cohn, Isadore, B.S., *N. Y. City College*.....(Mhtn) New York City
Conklin, Daniel Beckel.....Dayton, Ohio

Corrigan, Henry John Cole, A.B., *Brown;* A.M., *St. Francis Xavier*, Providence, R. I.
Cortright, Charles Bartles.....Newark, N. J.
Coultas, Aldo Bliss.....Morristown, N. J.
Covert, Jay Byington, A.B., *Hobart*.....Geneva, N. Y.
Dalton, William Aloysius, B.S., M.S., *N. Y. City College;* Ph.D., *New York University*, (Mhtn) New York City
Danforth, Edward.....(Mhtn) New York City
Davis, James William.....Livingston Manor, N. Y.
Deutsch, Sigmund.....(Mhtn) New York City
Dillon, Charles Joseph, A.B., *Manhattan*.....(Mhtn) New York City
Dollard, Henry Louis.....(Q) New York City
Doolittle, Willard Foster.....Geneseo, N. Y.
Doon, James Henry.....Worcester, Mass.
Duncan, Owsley Bennett.....Paterson, N. J.
Engelke, Charles.....Waterbury, Conn.
Erdman, Seward, A.B., *Princeton*.....Morristown, N. J.
Estill, Robert Julian, A. B., *Kentucky University*.....Lexington, Conn.
Evans, John Harry, B.Agr., *Storr's Agricultural College*, So. Woodstock, Conn.
Fewsmith, Joseph Livingston, A.B., *Yale*.....Newark, N. J.
Fletcher, Norton De Los Lull, A.B., *Columbia*.....(Mhtn) New York City
Fowler, Samuel Robertson.....Syracuse, N. Y.
Frink, Claude Augustine, A.B., *Williams*.....North Adams, Mass.
Galbraith, Arno William, B.S., *Grove City College, Pa*.....Natrona, Pa.
Garrigan, Gerald Paul.....Newark, N. J.
Giffen, Stanley D.....Hamilton, Ohio
Gillespie, David Halliday Moffat, A.B., *Yale*.....(Mhtn) New York City
Goldberg, Jacob Montgomery.....(Mhtn) New York City
Goodfriend, Nathan.....(Mhtn) New York City
Gould, George Clifford.....Mount Vernon, N. Y.
Gow, Robert Archibald.....Schuylerville, N. Y.
Guenther, Emil Albert.....Newark, N. J.
Haber, William John, Ph. G., *University of California*...San Francisco, Cal.
Haberstroh, Arthur.....(Mhtn) New York City
Hahn, George Henry.....Newark, N. J.
Hall, Charles Henry.....(Bklyn) New York City
Hamilton, Allen, A.B., *Williams*.....Fort Wayne, Ind.
Hammer, Julius.....(Mhtn) New York City
Harran, George Patrick.....Schenectady, N. Y.
Harrold, Charles Cotton, B.S., *University of Georgia*.....Americus, Ga.
Hart, George Graham.....Larchmont Manor, N. Y.
Hartshorn, Winfred Morgan, A.B., *Yale*.....New Haven, Conn.
Hawkins, Norman Louis.....Islip, N. Y.
Hazay, Max.....(Mhtn) New York City
Herbert, Edward.....Fall River, Mass.
Herzig, Arthur J.....(Mhtn) New York City
Heublein, Arthur Carl.....Hartford, Conn.

Hirsch, Seth Isaac.....(Mhtn) New York City
Hyde, James Samuel.....Fall River, Mass.
Ingraham, Ira Frank, A.B., *Colby*.....Houlton, Me.
Jacob, William Henry.....Paterson, N. J.
Jennings, Frank Dormer.....Corning, N. Y.
Jones, Samuel Fosdick.....Cincinnati, Ohio
Keator, Harry Mayham, A.B., *Yale*.....Roxbury, N. Y.
Keenan, Albert Joseph, A.B., *Manhattan*.....(Bklyn) New York City
Kinney, Virgil Charles.....Cuba, N. Y.
Knapp, Clinton Beecham, A.B., *Ohio Wesleyan*.....Delaware, Ohio
Knight, Robert.....Seneca Falls, N. Y.
Krauskopf, Henry.....(Mhtn) New York City
Krehbiel, Otto Frederick, A.B., *N. Y. City College*....(Mhtn) New York City
Kuhr, Ernestus Otto, A.B., *St. John's Coll., B'klyn*...(Bklyn) New York City
Lawson, James Herbert.....(Mhtn) New York City
Lee, Lawrence.....Savannah, Ga.
Lifshutz, Nathan.....(Mhtn) New York City
Loew, Harry Kalman.....Browsville, Texas
Loughran, Elbert Du Bois.....Kingston, N. Y.
Lowrey, James Henry.....Newark, N. J.
MacGuire, Daniel Philip.....(R) New York City
Mason, Woodruff, B.S., *New Hampshire State Coll*.....Worcester, Mass.
Matthews, Frank Cameron, A.B., *Leland Stanford Jr. Univ.*
(Mhtn) New York City
McCabe, John.....(Mhtn) New York City
McCabe, Thomas Sheridan.....Newark, N. J.
McChesney, Herman Franklin, B.S., *Carleton College*.....Northfield, Minn.
McFarland, George Henry, Jr., B.S., *Princeton*.....Cambridge, N. Y.
McGraw, Theodore Alexander, Jr., A.B., *Yale*.....Detroit, Mich.
McGraw, Willis Henry.....Cortland, N. Y.
McSheehy, Theobald Coleman, A.B., *Holy Cross;*
A.M., *St. Francis Xavier*, Whitinsville, Mass.
Mead, Lewis Durant, B.S., *Univ. of California*.....San Francisco, Cal.
Meeker, Harold Denman, A.B., *Wesleyan*.....Orange, N. J.
Meyer, William Henry.....(Mhtn) New York City
Milliken, Seth Minot, Jr., A.B., *Yale*.....(Mhtn) New York City
Monroe, Parley Williams, B.S., *Franklin College*.....Yonkers, N. Y.
Mosler, Fred Henry.....(Mhtn) New York City
Murphy, Joseph Denis.....Worcester, Mass.
O'Neil, Hugh Pius, B.A., *St. Joseph's Univ*.....New Brunswick, Canada
O'Rourke, Michael Francis, A.B., *St. Francis Xavier*, (Mhtn) New York City
Page, Albert William.....Chappaqua, N. Y.
Pappenheimer, Alvin Max, A.B., *Harvard*.....(Mhtn) New York City
Pentlarge, Victor Howard.....Wyoming, Ohio
Pfletschinger, Frederic, B.S., *N. Y. City College*.....(Mhtn) New York City
Phillips, Frederick George.....Providence, R. I.
Pollak, Alfred William.....Waterbury, Conn.

Province, Oran Arnold, A.B., *Indiana Univ*.....Providence, Ind.
Pyle, Francis Winthrop, A.B., *Yale*.....Bridgeport, Conn.
Quell, John Adam, Jr.....(Bklyn) New York City
Radin, Herman Theodore, A.B., *N. Y. City College*...(Mhtn) New York City
Reed, William Clarence, B.S., *N. Y. City College*.....(Mhtn) New York City
Rhodes, Goodrich Barbour, A.B., *Yale*.....St. Paul, Minn.
Rice, James Francis, A.B., A.M., *New York University*, Gnadenhütten, Ohio
Riggs, Austen Fox, A.B., *Harvard*.....(Mhtn) New York City
Rose, Robert Hugh, A.B., *De Pauw Univ*.....Carthage, Mo.
Rosenberg, Daniel Davis.....(Bklyn) New York City
Rosenbluth, Benjamin.....(Mhtn) New York City
Rosenbluth, Michael.....(Mhtn) New York City
Ryan, Joseph Patrick.....Danbury, Conn.
Saphir, Joseph Frederick.....(Mhtn) New York City
Satenstein, David Lawrence.....(Mhtn) New York City
Scheinberg, Louis.....(Mhtn) New York City
Seckel, Walter.....(Mhtn) New York City
Seff, Isadore.....Northumberland, Pa.
Siglar, Henry Burr, A.B., *Yale*.....Newburgh, N. Y.
Silk, Morris, A.B., *N. Y. City College*.....(Mhtn) New York City
Sloan, Andrew.....Utica, N. Y.
Smith, Archibald Delap, A.B., *Yale*.....(Bklyn) New York City
Smith, Davison Heermance, A.B., *Columbia*.....(Mhtn) New York City
Spitzka, Edward Anthony.....(Mhtn) New York City
Stern, Adolph, A.B., *N. Y. City College*.....(Mhtn) New York City
Stoll, Henry Farnum.....Port Jervis, N. Y.
Strong, Samuel Meredith.....(Mhtn) New York City
Sullivan, John Jerome, A.B., *Univ. of Nevada*.....Virginia City, Nev.
Sylvia, Charles Anthony.....New Bedford, Mass.
Titus, Henry Woodruff, A.B., *Williams*.....Auburn, N. Y.
Van Alstyne, William Becker.....Plainfield, N. Y.
Van Beuren, Frederick Theodore, Jr., A.B., *Yale*.....(Mhtn) New York City
Van Wart, Franklin Brush.....(Bklyn) New York City
Warren, Earl Philip.....Orwell, Vt.
Waterhouse, Henry Edwin.....Pascoag, R. I.
Webb, Frank Reed.....(Mhtn) New York City
Webster, Charles Edward, Jr., A.B., *Lehigh Univ*.....South Bethlehem, Pa.
Wells, William Henry, C.E., *Princeton ;* Ph.G., *N. Y. Coll. of Pharmacy*, Jersey City, N. J.
Westcott, William Beverly.....Montgomery, Ala.
Wheeler, Alfred Winslow.....Oakland, Me.
White, George Douglass.....Jersey City, N. J.
Whittemore, Edward Reed, A.B., *Yale*.....New Haven, Conn.
Wilcox, Herbert Budington, A.B., *Yale*.....Summit, N. J.
Willets, Walter Roland.....(Bklyn) New York City
Wollheim, Jacob Lewis.....(Mhtn) New York City

Second Year Class..... 158

FIRST YEAR CLASS

Abel, Samuel.....(Mhtn) New York City
Adams, Paul Allen, A.B., *Leland Stanford, Junior*.....Helena, Montana
Alexander, George Mortimer.....(Mhtn) New York City
Allen, David Gordon.....Savannah, Ga.
Ames, Elmer Hempsted.....Jersey City, N. J.
Andrews, Warren Beecher.....Plantsville, Conn.
Assenheimer, Edward Minturn.....(Mhtn) New York City
Baker, Fred Reuel, A.B., *Williams*.....Bloomington, Ill.
Ball, Charles Edward Augustine.....South Orange, N. J.
Bama, Lewis.....(Mhtn) New York City
Barnes, Harry.....Ashton, R. I.
Beattie, William Henry, A.B., *Williams*.....Cohoes, N. Y.
Beck, Samuel Saul, B.S., *N. Y. City College*.....(Mhtn) New York City
Block, Mark.....(Mhtn) New York City
Blood, Merwin David.....Newark, N. J.
Blumgart, Leonard.....Newark, N. J.
Bodenheimer, Milton, B.S., *N. Y. City College*.....(Mhtn) New York City
Borden, John Harvey, A.B., *Yale*.....(Mhtn) New York City
Borghard, John Frederick, Jr.....(Bklyn) New York City
Bourke, John Francis.....(Mhtn) New York City
Bradley, Armitage.....Sing Sing, N. Y.
Brennglass, Joachim, Ph.G., *N. Y. Coll. of Pharmacy*.(Mhtn) New York City
Brophy, William Joseph, B.S., *St. Francis Coll., Bklyn*.(Mhtn) New York City
Brown, Alfred Jerome, A.B., *Yale*.....(Mhtn) New York City
Brown, Frank Edwin.....(Bklyn) New York City
Bugbee, Harry Greenwood.....Springfield, Mass.
Bulkley, Joseph Edmund, A.B., *Yale*.....(Mhtn) New York City
Bullowa, Jesse Godfrey M., A.B., *N. Y. City College*..(Mhtn) New York City
Burdick, Carl Goodwin.....Springfield, Mass.
Burford, Mortimer Gilbert.....(Bklyn) New York City
Cannon, James Rutherford.....Irvington-on-Hudson, N. Y.
Cantle, Herbert Cuthbert.....(Mhtn) New York City
Capito, Gustav Benz, A.B., *Washington and Lee*.....Charleston, W. Va.
Carter, Norman McLeod, A.B., *Princeton*.....Huntington, L. I., N. Y.
Chace, Arthur Freeborn, A.B., *Harvard*, B.S., *Earlham Coll.*,
Fall River, Mass.
Chase, John Abbott.....Kent's Hill, Me.
Clay, Thomas Arthur.....Paterson, N. J.
Cocks, Gerhard Hutchinson, A.B., *Yale*.....(Bklyn) New York City
Cohen, Frank.....(Mhtn) New York City
Colton, Edwin Arthur, A.B., *Amherst*.....Montpelier, Vt.
Connelly, Michael Joseph.....Jersey City, N. J.
Cook, Albert Edward.....(Bklyn) New York City
Cooley, Walter King.....Mount Vernon, N. Y.
Cornman, Leighton Randolph.....(Mhtn) New York City
Cosgrove, John Joseph.....Worcester, Mass.

David, Frank Haines.....(Mhtn) New York City
Davis, Arthur Wendell, A.B., *Yale*.....Hartford, Conn.
De Baun, Ralph.....Valley Cottage, N. Y.
Dias, Joseph Lawrence.....New Bedford, Mass.
Doran, Charles Edmund, A.B., *Univ. of Nebraska*.....Sidney, Neb.
DuBois, Francis Elbert, A.B., *Princeton*.....(Mhtn) New York City
Duckett, Warren James.....Skaneateles, N. Y.
Dugro, Frank Anthony.....(Mhtn) New York City
Elias, Lewis Weimer, A.B., *Trinity Coll., No. Car*.....Franklin, N. C.
Epler, Don Agard.....Saratoga Springs, N. Y.
Erdwurm, Frank, B.S., *N. Y. University*.....Jersey City, N. J.
Erskine, James Pendleton, A.B., *Wesleyan, Conn*.....Searsport, Me.
Evans, Archibald Parker.....(Bklyn) New York City
Fairchild, Charles Wager.....Tarrytown, N. Y.
Fassett, Bryant Sloat.....Elmira, N. Y.
Faucett, Samuel Thompson.....Stamford, Conn.
Feeley, William Henry Pallister.....(Bklyn) New York City
Field, Francis Proctor.....Peoria, Ill.
Finch, Lew Henri.....(Bklyn) New York City
Finn, Frederic Aloysius, A.B., *St. Peter's Coll*.....Jersey City, N. J.
Foshay, John Russell.....Peekskill, N. Y.
Franca, Mario.....Havana, Cuba
Franklin, Louis.....Jersey City, N. J.
Fried, Gustav Adolph, A.B., *Harvard*.....(Mhtn) New York City
Friedman, Harry Jacob.....(Mhtn) New York City
Gage, George Henry.....Bellona, N. Y.
Garretson, William Van Pelt.....Jersey City, N. J.
Garside, Charles Zeh.....Newark, N. J.
Garvin, William Creighton.....(Bklyn) New York City
Goldfrank, Fred, A.B., *Harvard*.....(Mhtn) New York City
Greenblatt, Max.....(Mhtn) New York City
Gregory, Ward Slosson, Ph.B., *Yale*.....Norwalk, Conn.
Greif, Joseph.....(Mhtn) New York City
Gross, Herman.....Jersey City, N. J.
Gulliver, Francis Daniel.....Portland, Me.
Hamilton, Samuel Warren, A.B., *Univ. of Vermont*.....Rutland, Vt.
Hasking, Arthur Perry.....Jersey City, N. J.
Hastie, John Dearborn, A.B., *Univ. of Nebraska*.....(Mhtn) New York City
Haynes, Royal Storrs, Ph.B., *Cornell*.....(Bklyn) New York City
Heaphy, John Clement.....Brattleboro, Vt.
Helgeson, Karl Alfred.....Keokuk, Iowa
Helprin, Benjamin Edel.....(Mhtn) New York City
Henderson, Alfred Collard, B.S., *Amherst*.....(Bklyn) New York City
Hennen, William Davison.....(Mhtn) New York City
Hennesey, James Francis.....Garfield, N. J.
Henry, Edmund Taylor.....Jersey City, N. J.
Herlitzka, Louis.....(Mhtn) New York City

Higgins, Spencer Littlefield, B.S., *Rutgers*.....Roselle, N. J.
Hirth, Augustus Conrad.....Hartford, Conn.
Holcomb, Henry Van Velsor, Ph.G., *N. Y. Coll. of Phar.*,
Mamaroneck, N. Y.
Holdridge, Walter Henry.....Catskill, N. Y.
Horowitz, Israel.....(Mhtn) New York City
Huff, Earl Phineas.....(Mhtn) New York City
Humphreys, Frederick Brown, Ph.B., *Yale*.....(Mhtn) New York City
Hurd, Edward Condict.....Dover, N. Y.
Hurwitz, Walter Chester.....(Mhtn) New York City
Ingalls, Frederick Clark, B.S., *Trinity, Conn*.....(Mhtn) New York City
Intemann, Charles Frederick.....(Bklyn) New York City
Jaches, Leopold.....(Mhtn) New York City
Kanner, Samuel Henry.....(Mhtn) New York City
Kellogg, Henry Kirke White, B.S., *Amherst*.....(Mhtn) New York City
Kennard, William Sorrento.....Newark, N. J.
Kent, James Manning, A.B., *Brown*.....Putnam, Conn.
Kenyon, Harold Denison.....Westerly, R. I.
Kernan, John Devereux, Jr., A.B., *Harvard*.....(Mhtn) New York City
Kessel, Leo.....(Mhtn) New York City
Kingsbury, Isaac William, A.B., *Harvard*.....Newton, Mass.
Knipe, James Bolton.....(Mhtn) New York City
Knipe, William Hugh Wellington, A.B., *N. Y. City College*,
(Mhtn) New York City
Kroener, George Archer.....Long Branch, N. J.
Lamb, Richard Steele, Ph.B., *Yale*.....Waterbury, Conn.
Lang, Otto, Jr., A.B., *Detroit College*.....Detroit, Mich.
Le Comte, John Radway.....(Mhtn) New York City
Leiter, Horace Louis, A.B., *Harvard*.....Syracuse, N. Y.
Lennox, Paul Martin.....Colorado Springs, Col.
Lent, Malcolm Foster.....Peekskill, N. Y.
Leonard, Arthur James.....Saratoga Springs, N. Y.
Lesem, William Wolfe, A.B., *Columbia*.....Orange, N. J.
Levine, Israel.....Paterson, N. J.
Levy, Joseph.....(Bklyn) New York City
Littell, Elton Gardiner, A.B., *Trinity, Conn*.....(Mhtn) New York City
Lorber, Harry.....(Mhtn) New York City
Lord, William Ogden.....New Bedford, Mass.
Lyne, Frank Farra, B.L., *Kentucky Univ*.....Brannon, Ky.
Macbean, William Alistair Bruce.....Tarrytown, N. Y.
Malcolm, Joseph Douglas.....(Mhtn) New York City
Markham, Convas Lane.....Haverstraw, N. Y.
Marks, Samuel Blackburn, B.S., *Kentucky State Coll*.....Versailles, Ky.
Martin, Thomas.....Branford, Conn.
Maule, Francis Hinton.....Philadelphia, Pa.
McBride, David Allen.....Plattsburg, N. Y.
McCastline, William Henry.....(Mhtn) New York City

McCollom, William Ezra.....(Bklyn) New York City
Mitchell, Archibald, Jr.....Norwich, Conn.
Molony, John Joseph.....(Mhtn) New York City
Morgan, Henri Albert.....Norwich, Conn.
Mosenthal, Herman Otto, A.B., *Columbia*.....(Mhtn) New York City
Murphy, Frederic William, B.P., *Brown*.....Brockton, Mass.
Murphy, George Heenan.....(R) New York City
Nash, William Gibbs, A.B., *Harvard*.....Somerville, Mass.
Nelson, Nathan William.....Richmond, Va.
Neumann, William.....(Mhtn) New York City
Newman, Frederick James.....(Mhtn) New York City
Nicoll, Alexander.....(Mhtn) New York City
Nicoll, Leonard Francis.....(Mhtn) New York City
O'Crowley, Clarence Rutherford.....Newark, N. J.
Ogan, Morris Lee.....(Mhtn) New York City
O'Leary, William Joseph.....Canandaigua, N. Y.
Osgood, Charles.....Norwich, Conn.
Owens, George Conrad.....Adams Centre, N. Y.
Palmer, Lynn Ransom.....Sidney, N. Y.
Parkinson, James McDavid.....Norwich, Conn.
Paterson, Douglas Campbell.....(Mhtn) New York City
Peabody, James Royden.....Columbus, Ga.
Pease, Theodore Normand.....(Bklyn) New York City
Pierpont, David Cowee.....National Home, Wis.
Pierson, Henry Morton.....Roselle, N. J.
Poindexter, Alfred Morgan.....Saratoga Springs, N. Y.
Posner, Edward Rudolph.....Des Moines, Iowa
Potter, Philip Sheridan, A.B., *Yale*.....North Adams, Mass.
Pou, Robert Edward.....Columbus, Ga.
Puente, Alfonso Manuel, A.B., *Havana*.....Santiago, Cuba
Recknagel, William Edward.....Brunswick, Ga.
Reid, Robert Lincoln.....(Mhtn) New York City
Reynolds, Joseph See.....Valhalla, N. Y.
Ringland, Robert Finlay.....Montclair, N. J.
Robinson, Emanuel Marx.....(Mhtn) New York City
Rockwell, George Clark.....Junction City, Kan.
Rokeach, Aaron.....(Mhtn) New York City
Rosen, Isadore.....(Mhtn) New York City
Rosenbaum, Morris.....(Mhtn) New York City
Rosevear, Nathan Hodgson.....Jersey City, N. J.
Ross, William Holmes.....(Q) New York City
Royall, Edson Davidge.....Lebanon, Conn.
Rowland, Harry Haynes, A.B., *Williams*.....Geneseo, N. Y.
Runyon, Laurence Phillips, B.S., *Rutgers*.....New Brunswick, N. J.
Saladino, Sebastian.....(R) New York City
Sargent, Francis Augustus, Ph.B., *Wesleyan, Conn*....(Mhtn) New York City
Sartori, Antonio Joseph.....(Mhtn) New York City

Schechter, Nathan.....(Bklyn) New York City
Scheina, Otto.....(Mhtn) New York City
Schnepel, George Augustus.....(Mhtn) New York City
Shannahan, Richard Joseph, A.B., *Holy Cross*.....Worcester, Mass.
Shultz, Martin Elliot.....Punta Rassa, Fla.
Silliman, John Calvin, A.B., *Univ. of Virginia*.....Charlottesville, Va.
Simmons, Fred Albert, Ph.B., *Brown*.....Adams, Mass.
Sinnott, Joseph John.....Mt. Vernon, N. Y.
Smith, Leroy James.....Turners, N. Y.
Somoskeoy, Victor Henry.....Canandaigua, N. Y.
Spanier, Louis.....(Mhtn) New York City
Stetson, Dudley Donnelly.....Milwaukee, Wis.
Stork, Louis, Jr.....(Bklyn) New York City
Strodl, George Thomas, A.B., *N. Y. City College*.....West Hoboken, N. J.
Takami, Toyohiko Campbell.....Kumamoto, Japan
Tallmadge, William Henry, Jr.....(Mhtn) New York City
Tarditi, Antonio.....(R) New York City
Taves, Archibald William.....(Mhtn) New York City
Tilton, Arthur Russell.....Hammond, N. Y.
Tindell, George Runyon.....New Brunswick, N. J.
Trainor, James Henry.....New Brunswick, N. J.
Truslow, Ernest, A.B., *Yale*.....Summit, N. J.
Tunick, Isidor Solomon.....(Mhtn) New York City
Twichell, David Cushman, A.B., *Yale*.....Hartford, Conn.
Van Dyke, Benjamin Smith.....Stockton, N. J.
Vary, Harvey Judson, A.B., *Williams*.....Skaneateles, N. Y.
Von Huffman, Otto.....Dayton, O.
Weissman, Max, A.B., *N. Y. City College*.....(Mhtn) New York City
Whitbeck, Brainerd Hunt, A.B., *Harvard*.....Rochester, N. Y.
White, John Laurence, A.B., *St. Francis Xavier*.....Perth Amboy, N. J.
Wickham, Joseph Nelson.....Corona, N. Y.
Widmer, Henry Rudolph.....Port Richmond, N. Y.
Williams, Frederic Darbey.....Valley Falls, R. I.
Wise, Lester Drummond.....(Bklyn) New York City
Witthaus, Guy.....(Mhtn) New York City
Wolff, Morris.....Muncie, Ind.
Young, Joseph Witham, B.S., *Cornell*.....(Mhtn) New York City
Zinsser, Hans William, A.B., *Columbia*.....(Mhtn) New York City
Total..... 222

SPECIAL STUDENTS

Banta, Henry Westervelt.....Hackensack, N. J.
Barton, Bernard Giffin, A.B., *Wesleyan Univ., Conn.*..(Mhtn) New York City
Bock, Rudolph.....(Mhtn) New York City
Bonnell, Clarence Hornbeck.....(Mhtn) New York City
Boyd, William Ballantine, B.S., *N. Y. City College*.....(Mhtn) New York City
Brewster, George Franklin.....(Mhtn) New York City

Brown, Charles Anthony.....Hamilton, N. Y.
Burt, James Clark, Ph.B., *Western Univ. of Pa*.....Edgewood Park, Pa.
Bush, Morris Williams, A.B., *Vanderbilt*.....Anniston, Ala.
Cattell, Alexander Gilmore.....(Mhtn) New York City
Coan, Samuel.....(Mhtn) New York City
Cole, Alfred Peters, M.D., *Columbia*.....Chillicothe, Ohio
Cotton, Waite Allison.....(Mhtn) New York City
Davis, Thomas Joseph, Jr.....(Bklyn) New York City
Day, Fred Morgan.....Morristown, N. J.
Dixon, David Jeffery, A.B., *Mercersburg College, Pa.*; D. V. S., *Amer. Vet. College*.....St. Thomas, Pa.
Downes, William Augustus, M.D., *Columbia*.....(Mhtn) New York City
Engel, Paul Bernard.....(Bklyn) New York City
Erganian, John Kevork.....(Mhtn) New York City
Fear, Rawlings Clarence, A.B., *Wm. Jewell College, Missouri*; M.D., *Marion Sims Coll. of Medicine*.....Gardner, Kansas
Frentzel, Louis Herman Walter.....Passaic, N. J.
Gilbert, Thompson Dale, M.D., *Univ. of Maryland*.....Washington, D. C.
Gillies, Charles Holmes, M.D., *Medico-Chirurgical Coll., Philadelphia, Pa.* Nyack, N. Y.
Henderson, Robert Galloway, M.D., *Memphis Hosp. Med. Coll.*, Memphis, Tenn.
Herzog, Jerome Ray.....(Mhtn) New York City
Horton, Morgan Bennett.....New Canaan, Conn.
Irwin, Robert Bruce.....(Mhtn) New York City
Jackson, John Alexander, M.D., *Columbia*.....Tampa, Fla.
Johnson, Peer Prescott, A.B., *Univ. of Vermont*.....(Mhtn) New York City
Jones, William George, Jr.....(Mhtn) New York City
Katzenstein, George Paul, B.S., *Univ. of Wisconsin*.....Phila. Pa.
Kernan, John Davis.....Elizabeth, N. J.
Lillis, Martin James.....Jersey City, N. J.
Lowe, William, M.D., *N. Y. University*.....(Mhtn) New York City
Luper, Daniel Brett.....(Mhtn) New York City
MacNaughton, James Louis.....(Mhtn) New York City
McGrath, John Joseph.....(Bklyn) New York City
McLean, John Howell, Jr., A.B., *S. W. Presbyterian Univ.*, *Tenn.* M.D., *Ft. Worth Univ*.....Fort Worth, Texas
Meyer, Julian Jacques, A.B., *N. Y. City College*.....(Mhtn) New York City
Miller, Ethelbert Wesly.....Nyack, N. Y.
Moore, Robert Wescott.....(Mhtn) New York City
Morris, Lee, A.B., *Univ. of Georgia*.....Athens, Ga.
Park, Harry Mozart.....(Mhtn) New York City
Potter, De Alton Burr.....(Mhtn) New York City
Prentice, Harry William.....Adams Centre, N. Y.
Prentis, Arthur Valentine.....New London, Conn.
Rothganger, George, A.B., *Univ. of California*; M.D., *Cooper Med. Coll., California*.....(Bklyn) New York City

Schulte, Herman von Wechlinger, A.B., *Trinity*.....(Mhtn) New York City
Smith, Reginald Knight, M.D., *Coll. of P. and S., Baltimore, Md.*,
United States Navy
Taylor, Oscar Nettleton, A.B., M.D., *Univ. of California*.....Belmont, Cal.
Vannatta, Alden Martin.....Bayonne, N. J.
Walmsley, Hardie Barr.....New Orleans, La.
Watkins, Frank Chesley.....(Mhtn) New York City
Weir, Claude Hill.....Raleigh, N. C.
Weiss, Alexandre Jean Bernard, A.B., *Paris, France*..(Mhtn) New York City
Whittaker, Neil McLeod.....(Bklyn) New York City
Wilson, Frederic Hart.....(Bklyn) New York City
Wintermute, George Preston, M.D., *Jefferson Med. Coll.*.San Francisco, Cal.
Special Students.....58

SUMMARY

Fourth-Year Class	172
Third-Year Class	157
Second-Year Class	158
First-Year Class	222
Special Students	58
STUDENTS PRIMARILY REGISTERED UNDER THIS FACULTY	767
STUDENTS FROM OTHER FACULTIES OF THE UNIVERSITY :	
Seniors of the College	7
TOTAL	774

SCHOOL OF MINES
SCHOOL OF CHEMISTRY
SCHOOL OF ENGINEERING
SCHOOL OF ARCHITECTURE

UNDER THE DIRECTION OF THE FACULTY OF APPLIED SCIENCE

The following departments are represented in the Faculty:

ARCHITECTURE	GEOLOGY
ASTRONOMY	MATHEMATICS
CHEMISTRY	MECHANICS
CIVIL ENGINEERING	METALLURGY
ELECTRICAL ENGINEERING	MINERALOGY
MECHANICAL ENGINEERING	MINING
SANITARY ENGINEERING	PHYSICS

Officers of the Faculty

FREDERICK R. HUTTON, C.E., Ph.D.,
Dean of the Faculty, and Ex-Officio Member of the University Council
ROBERT PEELE, E.M. *Secretary of the Faculty*
HENRY S. MUNROE, E.M., Ph.D.,
Elected Delegate to the University Council

Standing Committees

COMMITTEE ON ADMINISTRATION: Professors Hutton, Van Amringe, Crocker, Hamlin, Howe

COMMITTEE ON ADMISSION AND EXAMINATIONS: Professors Hutton, Sherman, Kemp

The Faculty

SETH LOW, LL.D., *President*

CHARLES F. CHANDLER, Ph.D., M.D., LL.D., *Professor of Chemistry*

J. HOWARD VAN AMRINGE A.M., Ph.D., L.H.D., LL.D., *Professor of Mathematics*

OGDEN N. ROOD, A.M., *Professor of Physics*

HENRY S. MUNROE, E.M., Ph.D., *Professor of Mining and Delegate to the University Council*

WILLIAM R. WARE, B.S., LL.D., *Professor of Architecture*

FREDERICK R. HUTTON, A.M., C.E., Ph.D., *Professor of Mechanical Engineering and Dean*

JOHN KROM REES, A.M., E.M., Ph.D., *Professor of Astronomy and Director of the Observatory*

PIERRE DE PEYSTER RICKETTS, E.M., Ph.D.,* *Professor of Analytical Chemistry and Assaying*
ALFRED D. F. HAMLIN, A.M., *Adjunct Professor of Architecture*
ALFRED J. MOSES, E.M., Ph.D., *Professor of Mineralogy*
FRANK DEMPSTER SHERMAN, Ph.B., *Adjunct Professor of Architecture*
JAMES F. KEMP, A.B., E.M., *Professor of Geology*
ROBERT PEELE, E.M., *Adjunct Professor of Mining and Secretary of the Faculty*
WILLIAM HALLOCK, A.B., Ph.D., *Adjunct Professor of Physics*
FRANCIS B. CROCKER, E.M., Ph.D., *Professor of Electrical Engineering*
MICHAEL I. PUPIN, Ph.D., *Adjunct Professor of Mechanics*
WILLIAM H. BURR, C.E., *Professor of Civil Engineering*
ROBERT S. WOODWARD, C.E., Ph.D., *Professor of Mechanics*
HENRY M. HOWE, A.M., S.B., *Professor of Metallurgy*
CHARLES E. PELLEW, E.M., *Adjunct Professor of Chemistry*
EARL B. LOVELL, C.E., *Adjunct Professor of Civil Engineering*
WM. LEDYARD CATHCART, *Adjunct Professor of Mechanical Engineering*

NOTE: For other officers of instruction see departmental statements and special circulars.

Emeritus Officers

THOMAS EGLESTON, E.M., Ph.D., LL.D., *Emeritus Professor of Mineralogy and Metallurgy*
NATHANIEL L. BRITTON, E.M., Ph.D., *Emeritus Professor of Botany.*

Courses of Instruction

The Faculty of Applied Science offers eleven technical courses leading to professional degrees. These courses consist entirely of required work. Besides this professional instruction the Faculty permits certain subjects to be studied in partial fulfilment of the requirements for the degrees of A.B., A.M., and Ph.D., and also, under special conditions, admits students who are not candidates for a degree, to pursue special subjects.

UNDERGRADUATE COURSES FOR THE PROFESSIONAL DEGREES

In the School of Mines				
1. Mining Engineering	leading to the degree of			E.M.
2. Mining Engineering, Geological Option	"	"	"	E.M.
3. Metallurgy	"	"	"	Met.E.
In the School of Engineering				
4. Civil Engineering	"	"	"	C.E.
5. Sanitary Engineering	"	"	"	C.E.
6. Electrical Engineering	"	"	"	E.E.
7. Mechanical Engineering	"	"	"	Mech.E.
In the School of Chemistry				
8. Analytical Chemistry	"	"	"	B.S.
9. Industrial Chemistry	"	"	"	B.S.
10. Organic Chemistry	"	"	"	B.S.
In the School of Architecture				
11. Architecture	"	"	"	B.S.

* Absent on leave.

These courses are intended to meet the requirements of the several professions indicated. Many of the courses permit a certain amount of specialization, particularly in the fourth year. The courses in the School of Mines are so arranged that the student can emphasize the engineering, the metallurgical, or the geological side of his profession, while one of the alternative courses in Mechanical Engineering is designed for those who wish to make a specialty of mine plant and machinery. A course in Sanitary Engineering (leading to the degree of Civil Engineer) is provided for those who wish to prepare themselves for this important branch of civil engineering. The Mechanical Engineering course offers three alternatives in the fourth year, emphasizing respectively the dynamic, the electrical, and the mining side of the mechanical engineer's work. Three courses are offered in Chemistry, for analytical chemists, industrial chemists, and organic chemists respectively. The School of Architecture offers two alternatives in the fourth year—a course of Advanced Architectural History and Design, and a course of Advanced Architectural Engineering and Practice. Full particulars regarding each of these courses of study are contained in special circulars, which will be forwarded on application to the Secretary of the University.

Modifications of Regular Courses

Under proper restrictions, and for reasons of weight, the Faculty will permit a student to substitute one study for another in any of the regular courses (see By-Law 3). By taking advantage of this provision students can fit themselves for special or unusual lines of professional work without losing their degree.

Special Privileges for Graduate Students

Graduates of colleges or scientific schools are admitted to advanced standing in any of the regular professional courses, as candidates for a degree. Such students are given credit for all courses of which they have had the substantial equivalent, and are permitted to take any course of study for which they are qualified. The lecture hours are so arranged that such students can generally fulfil all the requirements for a degree in one or two years. Such men should make arrangements to attend, before entrance if possible, the required summer classes of the course they intend to take.

Special Students

Graduates of the School of Mines, the School of Chemistry, the School of Engineering, and the School of Architecture, and of other institutions of like grade and standing, may pursue any subjects taught in the schools for which they are properly qualified. In the School of Architecture professional draughtsmen of age and experience are received as special students on favorable terms, and in all the schools permission to pursue special courses is sometimes given, for reasons of weight, to persons of mature age who are not graduates. As a rule, however, special students are not admitted to the elementary courses of the lower classes, and unless unusually well qualified are not desired in the professional courses.

Elective Courses Open to Students in the College

All the studies of the first year, and many of the second-year courses of the School of Mines, the School of Chemistry, the School of Engineering, and the School of Architecture, are included among the electives offered to students of Columbia College.

Any and all of the studies of the second year in the above schools are open to members of the Senior class in the College who are properly qualified.

By a judicious arrangement of his course of study from the beginning, a graduate of Columbia College can thus enter the third year of any of the above schools.

University Courses in Applied Science

The Faculty of Applied Science has charge of candidates for the degrees of Master of Arts and Doctor of Philosophy who desire to undertake advanced study or special investigations in mining, metallurgy, engineering (civil, sanitary, electrical, and mechanical), or in architecture. Information as to these higher degrees will be found in the departmental statements, as follows:

ARCHITECTURE, page 53
CIVIL AND SANITARY ENGINEERING, page 74
ELECTRICAL ENGINEERING, page 81
MECHANICAL ENGINEERING, page 86
METALLURGY, page 123
MINING, page 129

The University courses in Anatomy; Astronomy; Bacteriology; Botany; Chemistry, Inorganic and Organic; Geology, including Lithology and Palæontology; Mathematics; Mineralogy; Physics; Physiology; Zoölogy, are under the charge of the Faculty of Pure Science.

COURSE IN MINING ENGINEERING

First Year

TRIGONOMETRY (Mathematics 10)—5 hours, first part of first half-year
ALGEBRA (Mathematics 10)—5 hours, second part of first half-year
ANALYTICAL GEOMETRY (Mathematics 11)—5 hours, second half-year
PHYSICS (Physics 1)—3 hours
CHEMISTRY (Chemistry 1)—4 hours
QUALITATIVE ANALYSIS (Chemistry 7)—2 hours, and 4 afternoons alternate weeks laboratory
BOTANY (Botany 8)—1 hour, and 1 afternoon laboratory, first half-year
ZOÖLOGY (Zoölogy 1)—1 hour, and 1 afternoon laboratory, second half-year
BLOWPIPE ANALYSIS and CRYSTALLOGRAPHY (Mineralogy 1 and 2)—2 hours, and 4 afternoons alternate weeks laboratory, first half-year
MINERALOGY (Mineralogy 4)—2 hours, and 1 afternoon laboratory, second half-year
SURVEYING (Civil Engineering 1) —2 hours, second half-year
DRAWING (Mechanical Engineering 1)—Drawing-room first half-year, afternoons of alternate weeks, second half-year

Summer Vacation

SURVEYING (Civil Engineering 15)—6 weeks field work

Second Year

CALCULUS (Mathematics 6)—3 hours
PHYSICS (Physics 3)—2 hours, first half-year
PHYSICAL LABORATORY (Physics 3)—2 hours
INDUSTRIAL CHEMISTRY (Chemistry 24)—3 hours
QUANTITATIVE ANALYSIS (Chemistry 12)—2 hours, and 3 afternoons and Saturdays alternate weeks laboratory, first half-year; recitation and alternate weeks laboratory, second half-year
MINERALOGY (Mineralogy 4)—2 hours, and 1 afternoon laboratory, first half-year
OPTICAL MINERALOGY (Mineralogy 6)—2 hours, and 1 afternoon laboratory for 2 months, second half-year
GEOLOGY (Geology 2)—3 hours
PETROGRAPHY (Geology 4)—2 hours, and 1 afternoon for 2 months, second half-year
EXCAVATION AND TUNNELLING (Mining 1)—3 hours, first half-year
BORING AND SHAFT SINKING (Mining 2)—2 hours, second half-year
SUPPORT OF MINE EXCAVATIONS (Mining 2a)—1 hour, second half-year
DRAWING (Mechanical Engineering 1 and 2)—3 afternoons alternate weeks drawing-room, first half-year
DESCRIPTIVE GEOMETRY AND DRAWING (Mechanical Engineering 1 and 2)—2 hours, and 4 afternoons alternate weeks drawing-room, second half-year

Summer Vacation

PRACTICAL MINING (Mining 11) *optional*—5 weeks
PRACTICAL METALLURGY (Metallurgy 20) *optional*—2 weeks
FIELD GEOLOGY—(Geology 13) *optional*—1 week
SURVEYING (Civil Engineering 16)—6 weeks field work
RAILROAD SURVEYING (Civil Engineering 17)—4 weeks field work

See pages 49–182 for departmental statements with details of the above courses

COURSE IN MINING ENGINEERING

Third Year

ANALYTICAL MECHANICS (Mechanics 1)—3 hours
ASSAYING (Chemistry 17)—3 hours, second half-year, and 3 afternoons and Saturdays laboratory, second half-year
ECONOMIC GEOLOGY (Geology 3)—3 hours
RESISTANCE OF MATERIALS (Civil Engineering 5)—3 hours, first half-year; 2 hours, second half-year
TESTING OF MATERIALS (Mechanical Engineering 16) — Afternoon hours laboratory, second half-year
ENGINEERING OF POWER PLANTS (Mechanical Engineering 11)—1 hour, second half-year
MINING (Mining 3)—2 hours
ORE DRESSING (Mining 4)—2 hours
MINE CONSTRUCTIONS (Mining 7a)—1 hour, second half-year
METALLURGY (Metallurgy 1 and 2)—3 hours, first half-year
ELECTRICAL ENGINEERING (Electrical Engineering 5)—1 hour, and 1 afternoon laboratory, second half-year
GRAPHIC STATICS (Civil Engineering 6)—2 hours, second half-year
DESIGN, PROBLEMS (Civil Engineering 5 and 6)—2 afternoons, first half-year; afternoons of second half-year
VACATION CLASS IN MECHANICAL ENGINEERING (Mechanical Engineering 35) *optional*—second half-year

Summer Vacation

PRACTICAL MINING (Mining 11)—5 weeks
PRACTICAL METALLURGY (Metallurgy 20) *optional*—2 weeks
FIELD GEOLOGY (Geology 13)—1 week
RAILROAD SURVEYING (Civil Engineering 17)—4 weeks field work

Fourth Year

THERMODYNAMICS (Mechanics 4) —3 hours, second half-year
THE STEAM ENGINE AND ITS ACCESSORIES (Mechanical Engineering 12)—2 hours, first half-year
THE STEAM BOILER AND ITS ACCESSORIES (Mechanical Engineering 13)—2 hours, second half-year
HEAT AND ITS APPLICATIONS (Mechanical Engineering 19)—3 hours, first half-year
MOTORS (Mechanical Engineering 20)—1 hour, second half-year
DYNAMICS OF MOTORS (Mechanical Engineering 21)—1 hour, second half-year
HYDRAULICS (Civil Engineering 12) — 2 hours lectures with problem work, first half-year
MINE ENGINEERING (Mining 6)—2 hours, first half-year; 1 hour second half-year
MINE PLANT (Mining 7)—3 hours, first half-year; 2 hours, second half-year
MINE SURVEYING (Mining 9)—1 hour, second half-year
MINE ADMINISTRATION (Mining 10)—1 hour, second half-year
METALLURGY (Metallurgy 4 and 5)—3 hours
ORE-DRESSING LABORATORY (Mining 5)—Afternoon work for 3 weeks, second half-year
DESIGN OF MINE PLANT (Mining 8)—4 afternoons, first half-year; 3 afternoons, second half-year
PROJECT IN MINING

See pages 49–182 for departmental statements with details of the above courses

COURSE IN MINING ENGINEERING

Geological Alternative

(The first three years are the same as in the regular course)

Fourth Year

PETROLOGY (Geology 6)—2 hours, and 1 afternoon laboratory

PALÆONTOLOGY (Geology 7)—2 hours, and 1 afternoon laboratory

GEOLOGICAL EXAMINATIONS AND SURVEYS (Geology 10)—1 hour

THERMODYNAMICS (Mechanics 4)—3 hours, second half-year

HEAT AND ITS APPLICATIONS (Mechanical Engineering 19)—3 hours, first half-year.

MINE ENGINEERING (Mining 6)—2 hours, first half-year; 1 hour, second half-year

MINE PLANT (Mining 7)—3 hours, first half-year; 2 hours, second half-year

MINE SURVEYING (Mining 9)—1 hour, second half-year

MINE ADMINISTRATION (Mining 10)—1 hour, second half-year

ORE-DRESSING LABORATORY (Mining 5)—Afternoon work for 3 weeks, second half-year

METALLURGY (Metallurgy 4 and 5)—3 hours

PROJECT—2 afternoons and Saturdays

See pages 49–182 for departmental statements with details of the above courses

COURSE IN METALLURGY

First Year

TRIGONOMETRY (Mathematics 10)—5 hours, first part of first half-year

ALGEBRA (Mathematics 10)—5 hours, second part of first half-year

ANALYTICAL GEOMETRY (Mathematics 11)—5 hours, second half-year

PHYSICS (Physics 1)—3 hours

CHEMISTRY (Chemistry 1)—4 hours

QUALITATIVE ANALYSIS (Chemistry 7)—2 hours, and 4 afternoons and Saturdays alternate weeks laboratory

BLOWPIPE ANALYSIS AND CRYSTALLOGRAPHY (Mineralogy 1 and 2)—2 hours, and 2 afternoons a week laboratory, first half-year

MINERALOGY (Mineralogy 4)—2 hours, and 1 afternoon laboratory, second half-year

SURVEYING (Civil Engineering 1)—2 hours, second half-year

DRAWING (Mechanical Engineering 1)—Drawing-room, first half-year, and afternoons of alternate weeks, second half-year

Summer Vacation

SURVEYING (Civil Engineering 15)—6 weeks field work

Second Year

CALCULUS (Mathematics 6)—3 hours

PHYSICS (Physics 3)—2 hours, first half-year

PHYSICAL LABORATORY (Physics 3)—2 hours

INDUSTRIAL CHEMISTRY (Chemistry 24)—3 hours

QUANTITATIVE ANALYSIS (Chemistry 9)—4 hours, and 3 afternoons and Saturdays alternate weeks laboratory, with a fourth afternoon in second half-year

OPTICAL MINERALOGY (Mineralogy 6)—2 hours, and 1 afternoon laboratory for 2 months, second half-year

PETROGRAPHY (Geology 4)—2 hours, and 1 afternoon laboratory for 2 months, second half-year

MINERALOGY (Mineralogy 4)—2 hours, and 1 afternoon laboratory, first half-year

GEOLOGY (Geology 2)—3 hours

DRAWING (Mechanical Engineering 1 and 2)—2 hours, and 4 afternoons of alternate weeks drawing-room, first half-year; 4 afternoons alternate weeks drawing-room, second half-year

Summer Vacation

PRACTICAL METALLURGY (Metallurgy 20) *optional*—2 weeks

PRACTICAL MINING (Mining 11) *optional*—5 weeks

FIELD GEOLOGY (Geology 13) *optional*—1 week

SURVEYING (Civil Engineering 16) *optional*—6 weeks field work

RAILROAD SURVEYING (Civil Engineering 17)—4 weeks field work

See pages 49-182 for departmental statements with details of the above courses

COURSE IN METALLURGY

Third Year

ANALYTICAL MECHANICS (Mechanics 1)—3 hours
ASSAYING (Chemistry 17)—3 hours, and 3 afternoons and Saturdays laboratory, first half-year
ECONOMIC GEOLOGY (Geology 3)—3 hours
RESISTANCE OF MATERIALS (Civil Engineering 5)—3 hours, first half-year ; 2 hours, second half-year
ENGINEERING OF POWER PLANTS (Mechanical Engineering 11)—1 hour, second half-year
MINING (Mining 3)—2 hours
ORE DRESSING (Mining 4)—2 hours
MINE CONSTRUCTIONS (Mining 7a)—1 hour, second half-year
ELECTRICAL ENGINEERING (Electrical Engineering 5)—1 hour, and 1 afternoon laboratory, second half-year
GENERAL METALLURGY (Metallurgy 1)—3 hours during October, November, and December
METALLURGY OF IRON AND STEEL (Metallurgy 2)—3 hours during January
METALLURGY OF IRON AND STEEL (Metallurgy 3)—4 hours, second half-year
PRACTICAL LABORATORY WORK (Metallurgy 6)—3 afternoons, second half-year
GRAPHIC STATICS (Civil Engineering 6)—2 hours, second half-year
DESIGN, PROBLEMS (Mechanical Engineering 22)—2 afternoons, first half-year ; afternoons of second half-year

Summer Vacation

PRACTICAL METALLURGY (Metallurgy 20)—2 weeks
PRACTICAL MINING (Mining 11)—5 weeks
FIELD GEOLOGY (Geology 13)—1 week
VACATION CLASS IN MECHANICAL ENGINEERING (Mechanical Engineering 35)

Fourth Year

ANALYTICAL CHEMISTRY (Chemistry 14)—2 hours lectures and laboratory work, first half-year
THE STEAM ENGINE AND ITS ACCESSORIES (Mechanical Engineering 12)—2 hours, first half-year
THE STEAM BOILER AND ITS ACCESSORIES (Mechanical Engineering 13)—2 hours, second half-year
MOTORS (Mechanical Engineering 20)—1 hour, second half-year
DYNAMICS OF MOTORS (Mechanical Engineering 21)—1 hour, second half-year
ELECTRICAL ENGINEERING (Electrical Engineering 3)—1 hour, second half-year
MINE SURVEYING (Mining 9)—1 hour, second half-year
MINE ADMINISTRATION (Mining 10)—1 hour, second half-year
METALLURGY OF COPPER (Metallurgy 4)—4 hours during October, November, and December
METALLURGY OF LEAD, ETC. (Metallurgy 5)—4 hours during January and second half-year
ORE-DRESSING LABORATORY (Mining 5)—Afternoon work for three weeks, second half-year
DRAWING (in connection with Project)
PROJECT (and Thesis in Metallurgy)

See pages 49-182 for departmental statements with details of the above courses

COURSES IN ANALYTICAL, INDUSTRIAL, AND ORGANIC CHEMISTRY

First Year

Identical for the three Chemical Courses

TRIGONOMETRY (Mathematics 10)—5 hours, first part of first half-year

ALGEBRA (Mathematics 10)—5 hours, second part of first half-year

ANALYTICAL GEOMETRY (Mathematics 11)—5 hours, second half-year

PHYSICS (Physics 1)—3 hours

CHEMISTRY (Chemistry 1)—4 hours

QUALITATIVE ANALYSIS (Chemistry 7)—2 hours, and 4 afternoons and Saturdays of alternate weeks laboratory, first half-year; 4 hours, and 4 afternoons and Saturdays of alternate weeks laboratory, second half-year

BLOWPIPE ANALYSIS AND CRYSTALLOGRAPHY (Mineralogy 1 and 2)—2 hours, and 2 afternoons a week laboratory, first half-year

MINERALOGY (Mineralogy 3)—2 hours, and 3 hours laboratory, second half-year

DRAWING (Mechanical Engineering 1)—1 hour first half-year, and drawing-room throughout the year

Summer Vacation

SUMMER WORK, a set of drawings on subjects to be assigned by the Instructor in drawing, and other work assigned by the Professor of Chemistry

Second Year

Identical for the three Chemical Courses

CALCULUS (Mathematics 6)—3 hours

PHYSICS (Physics 3)—2 hours, first half-year

PHYSICAL LABORATORY (Physics 3)—2 hours

ORGANIC CHEMISTRY, ELEMENTARY (Chemistry 20)—3 hours

INDUSTRIAL CHEMISTRY (Chemistry 24)—4 hours

QUANTITATIVE ANALYSIS (Chemistry 9)—4 hours, and 3 afternoons and Saturdays laboratory, with a fourth afternoon in second half-year

PHYSICAL CHEMISTRY (Chemistry 3)—2 hours, and 3 hours laboratory, second half-year

MINERALOGY (Mineralogy 4)—2 hours, and 3 hours laboratory, first half-year

Summer Vacation

SUMMER SCHOOL IN CHEMISTRY, and Memoir on some subject to be assigned by the Professor of Chemistry

See pages 49–182 for departmental statements with details of the above courses

Third Year

Course A.—Analytical Chemistry

Course C.—Organic Chemistry

THEORETICAL MECHANICS (Mechanics 3)—2 hours
INDUSTRIAL CHEMISTRY (Chemistry 25)—4 hours
INDUSTRIAL CHEMISTRY, LABORATORY (Chemistry 26)—3 afternoons, first half-year
ASSAYING (Chemistry 17)—3 hours, and 3 afternoons and Saturdays laboratory, first half-year
QUANTITATIVE ANALYSIS (Chemistry 13)—4 hours, and 4 afternoons and Saturdays laboratory, second half-year
GENERAL METALLURGY (Metallurgy 1)—3 hours for 3 months, first half-year
METALLURGY OF IRON AND STEEL (Metallurgy 2)—3 hours for 1 month, first half-year
METALLURGY OF LEAD, ETC. (Metallurgy 5)—3 hours for 1 month, first half-year; 3 hours, second half-year

Summer Vacation

SUMMER SCHOOL IN CHEMISTRY, and Memoir on some subject to be assigned by the Professor of Chemistry
SUMMER SCHOOL IN METALLURGY

Third Year

Course B.—Industrial Chemistry

THEORETICAL MECHANICS (Mechanics 3)—2 hours
INDUSTRIAL CHEMISTRY (Chemistry 25)—4 hours
INDUSTRIAL CHEMISTRY, LABORATORY (Chemistry 26 and 27)—3 afternoons, first half-year; 2 afternoons, second half-year
ASSAYING (Chemistry 17)—3 hours, and 2 afternoons and Saturdays laboratory, first half-year
QUANTITATIVE ANALYSIS (Chemistry 13)—4 hours, and 3 afternoons and Saturdays laboratory, second half-year
GENERAL METALLURGY (Metallurgy 1)—3 hours for 3 months, first half-year
METALLURGY OF IRON AND STEEL (Metallurgy 2)—3 hours for 1 month, first half-year
METALLURGY OF LEAD, ETC. (Metallurgy 5)—3 hours for 1 month, first half-year; 3 hours, second half year

Summer Vacation

SUMMER SCHOOL IN CHEMISTRY, and Memoir on some subject to be assigned by the Professor of Chemistry
SUMMER SCHOOL IN METALLURGY

See pages 49-182 for departmental statements with details of the above courses

Fourth Year

Course A.—Analytical Chemistry

Elementary Thermodynamics (Mechanics 5)—2 hours, first half-year
Industrial Chemistry (Chemistry 25)—4 hours
Industrial Chemistry, Laboratory (Chemistry 27)—2 afternoons, second half-year
Analytical Chemistry (Chemistry 14)—2 hours, throughout year, and 3 afternoons and Saturday laboratory, second half-year
Organic Chemistry (Chemistry 21)—4 hours, first half-year, and 3 hours, second half-year, and at least 20 hours laboratory, first half-year
Physical Chemistry (Chemistry 4)—3 hours throughout year, and 1 laboratory exercise, first half-year
Electrical Engineering (Electrical Engineering 3)—1 hour
Metallurgy of Copper (Metallurgy 4)—3 hours for 3 months, first half-year
Thesis, on some chemical subject approved by the head of the department

Fourth Year

Course B.—Industrial Chemistry

Elementary Thermodynamics (Mechanics 5)—2 hours, first half-year
Industrial Chemistry (Chemistry 25)—4 hours
Industrial Chemistry, Laboratory (Chemistry 28)—5 afternoons, second half-year
Organic Chemistry (Chemistry 21)—4 hours, first half-year, and 3 hours second half-year, and at least 20 hours laboratory, first half-year
Physical Chemistry (Chemistry 4)—3 hours, throughout year, and 1 afternoon laboratory, first half-year
Electrical Engineering (Electrical Engineering 3)—1 hour, first half-year
Electrical Engineering (Electrical Engineering 5)—1 hour, and 1 hour laboratory, second half-year
Engineering of Power Plants (Mechanical Engineering 11, 12, and 13)—2 hours, first half-year, and 3 hours, second half-year
Metallurgy of Copper (Metallurgy 4)—3 hours for 3 months, first half-year
Thesis, on some chemical subject approved by the head of the department

Fourth Year

Course C.—Organic Chemistry

Elementary Thermodynamics (Mechanics 5)—2 hours first half-year
Industrial Chemistry (Chemistry 25)—4 hours
Industrial Chemistry, Laboratory (Chemistry 27)—2 afternoons, second half-year
Organic Chemistry (Chemistry 21)—6 hours, first half-year, and 5 hours second half-year, and at least 20 hours laboratory, first half-year, and 3 afternoons and Saturdays laboratory, second half-year
Physical Chemistry (Chemistry 4)—3 hours, throughout year, and one laboratory exercise, first half-year
Electrical Engineering (Electrical Engineering 3)—1 hour
Physical Crystallography (Mineralogy 8)—1 hour laboratory
Thesis, on some chemical subject approved by the head of the department

See pages 49–182 for departmental statements with details of the above courses

COURSE IN CIVIL ENGINEERING

First Year

TRIGONOMETRY (Mathematics 10)—5 hours, first part of first half-year

ALGEBRA (Mathematics 10)—5 hours, second part of first half-year

ANALYTICAL GEOMETRY (Mathematics 11)—5 hours, second half-year

PHYSICS (Physics 1)—3 hours

CHEMISTRY (Chemistry 1)—4 hours

QUALITATIVE ANALYSIS (Chemistry 7)—2 hours, and 3 afternoons and Saturdays of alternate weeks laboratory

BOTANY (Botany 8)—1 hour, and 1 afternoon laboratory work, first half-year

SURVEYING (Civil Engineering 1)—2 hours, second half-year

DRAWING (Mechanical Engineering 1)—1 hour, and drawing-room, first half-year

DESCRIPTIVE GEOMETRY AND DRAWING (Mechanical Engineering 1)—2 hours, and drawing-room, second half-year

SHOP WORK (Mechanical Engineering 3 and 4)—1 hour, and 1 afternoon in shops

Summer Vacation

SURVEYING (Civil Engineering 15)—6 weeks field work

Second Year

CALCULUS (Mathematics 6)—3 hours

PHYSICS (Physics 3)—2 hours, first half-year

PHYSICAL LABORATORY (Physics 3)—2 hours

INDUSTRIAL CHEMISTRY (Chemistry 24)—3 hours

MINERALS OF BUILDING STONES (Mineralogy 5)—2 hours, and 1 afternoon laboratory

ELEMENTS OF ELECTRICAL ENGINEERING (Electrical Engineering 7)—1 hour, first half-year, and 2 hours, second half-year

ROAD ENGINEERING (Civil Engineering 2)—2 hours, first half-year

WATER SUPPLY AND IRRIGATION (Civil Engineering 3)—2 hours, second half-year

GRAPHICS AND DRAWING (Mechanical Engineering 1 and 2)—2 hours, and drawing-room, first half-year

DRAWING (Mechanical Engineering 1 and 2)—2 hours, and drawing-room, second half-year

SHOP WORK (Mechanical Engineering 6 and 7)—1 hour first half-year, and 1 afternoon in shop

Summer Vacation

SURVEYING (Civil Engineering 16)—6 weeks field work

See pages 49–182 for departmental statements with details of the above courses

COURSE IN CIVIL ENGINEERING

Third Year

ANALYTICAL MECHANICS (Mechanics 1)—3 hours
GEOLOGY (Geology 2)—3 hours
GEODESY (Astronomy 3)—2 hours
RESISTANCE OF MATERIALS (Civil Engineering 5)—3 hours, first half-year; 2 hours, second half-year
ENGINEERING OF POWER PLANTS (Mechanical Engineering 11)—1 hour, second half-year
MASONRY STRUCTURES (Civil Engineering 4)—1 hour
THEORY OF TRUSSES (Civil Engineering 7)—2 hours, second half-year
SEWAGE DISPOSAL (Civil Engineering 8)—2 hours, first half-year
GRAPHIC STATICS (Civil Engineering 6)—2 hours, second half-year
THEORY OF RAILROAD SURVEYING (Civil Engineering 14)—1 hour
ELECTRICAL ENGINEERING (Electrical Engineering 5)—1 hour, and 1 afternoon laboratory, second half-year
EARTH AND ROCK-EXCAVATION (Mining 2b)—2 hours—first half-year
DESIGN, PROBLEMS (Civil Engineering 4, 5, 6, and 7)—Afternoon work
VACATION CLASS IN MECHANICAL ENGINEERING (Mechanical Engineering 35) *optional*—second half-year

Summer Vacation

PRACTICAL GEODESY (Astronomy 3)—6 weeks field work
RAILROAD SURVEYING (Civil Engineering 17)—4 weeks field work

Fourth Year

GEODESY (Astronomy 3)—2 hours, first half-year
DESIGN OF BRIDGES AND BUILDINGS (Civil Engineering 10)—2 hours
HYDRAULICS (Civil Engineering 12)—2 hours, first half-year
THERMODYNAMICS (Mechanics 4)—3 hours, second half-year
THE STEAM ENGINE AND ITS ACCESSORIES (Mechanical Engineering 12)—2 hours, first half-year
THE STEAM BOILER AND ITS ACCESSORIES (Mechanical Engineering 13)—2 hours, second half-year
HEAT AND ITS APPLICATIONS (Mechanical Engineering 19)—3 hours, first half-year
MOTORS (Mechanical Engineering 20)—1 hour, second half-year
DYNAMICS OF MOTORS (Mechanical Engineering 21)—1 hour, second half-year
MACHINERY AND MECHANISM (Mechanical Engineering 18)—2 hours
METALLURGY OF IRON AND STEEL (Metallurgy 3)—3 hours, second half-year
PUMPS AND PUMPING ENGINES (Mechanical Engineering 27)—Course of 6 lectures, second half-year
FOUNDATIONS (Civil Engineering 11)—2 hours, first half-year
SEWERS AND HARBORS (Civil Engineering 13)—2 hours, second half-year
RAILROAD ENGINEERING (Mechanical Engineering 26)—3 hours, first half of first half-year; (Civil Engineering 9)—3 hours, second half of first half-year; 3 hours, second half-year
DESIGN, PROBLEMS (Civil Engineering 10, 11, 12, and 13)—Afternoon work
PROJECT OR THESIS, on some civil-engineering subject approved by the head of the department

See pages 49–182 for departmental statements with details of the above courses

COURSE IN SANITARY ENGINEERING

First Year

Identical with the first year of the course in Civil Engineering

Second Year

CALCULUS (Mathematics 6)—3 hours

PHYSICS (Physics 3)—2 hours, first half-year

PHYSICAL LABORATORY (Physics 3)—2 hours

INDUSTRIAL CHEMISTRY (Chemistry 24)—3 hours

MINERALS OF BUILDING STONES (Mineralogy 5)—2 hours, and 1 afternoon laboratory

ROAD ENGINEERING (Civil Engineering 2)—2 hours, first half-year

WATER SUPPLY AND IRRIGATION (Civil Engineering 3)—2 hours, second half-year

SANITARY ENGINEERING OF BUILDINGS (Civil Engineering 18)—2 hours, first half-year

* GENERAL PRINCIPALS OF HYGIENE AND SANITARY SCIENCE (Civil Engineering 19)—2 hours, second half-year

* GENERAL BIOLOGY—2 hours, second half-year

GRAPHICS AND DRAWING (Mechanical Engineering 1 and 2)—2 hours, and drawing-room

Summer Vacation

SURVEYING (Civil Engineering 16)—6 weeks field work

See pages 49–182 for departmental statements with details of the above courses

* These courses may be modified and rearranged

COURSE IN SANITARY ENGINEERING

Third Year

ANALYTICAL MECHANICS (Mechanics 1)—3 hours
GEOLOGY (Geology 2)—3 hours
GEODESY (Astronomy 3)—2 hours
RESISTANCE OF MATERIALS (Civil Engineering 5)—3 hours, first half-year; 2 hours, second half-year
* MICROSCOPY—2 hours, and 2 hours laboratory
ENGINEERING OF POWER PLANTS (Mechanical Engineering 11)—1 hour, second half-year
MASONRY STRUCTURES (Civil Engineering 4)—1 hour
THEORY OF TRUSSES (Civil Engineering 7)—2 hours, second half-year
SEWAGE DISPOSAL (Civil Engineering 8)—2 hours, first half-year
GRAPHIC STATICS (Civil Engineering 6)—2 hours, second half-year
THEORY OF RAILROAD SURVEYING (Civil Engineering 14)—1 hour
ELECTRICAL ENGINEERING (Electrical Engineering 5) —1 hour, and 1 afternoon laboratory, second half-year
DESIGN, PROBLEMS (Civil Engineering 4, 5, 6, and 7)—afternoon work
VACATION CLASS IN MECHANICAL ENGINEERING (Mechanical Engineering 35) *optional*—second half-year

Summer Vacation

PRACTICAL GEODESY (Astronomy 3)—6 weeks field work
RAILROAD SURVEYING (Civil Engineering 17)—4 weeks field work

Fourth Year

HEATING AND VENTILATION (Civil Engineering 20)—2 hours
DESIGN OF BRIDGES AND BUILDINGS (Civil Engineering 10)—2 hours, first half-year
HYDRAULICS (Civil Engineering 12)—2 hours, first half-year
THERMODYNAMICS (Mechanics 4)—3 hours, second half-year
THE STEAM ENGINE AND ITS ACCESSORIES (Mechanical Engineering 12)—2 hours, first half-year
THE STEAM BOILER AND ITS ACCESSORIES (Mechanical Engineering 13)—2 hours, second half-year
HEAT AND ITS APPLICATIONS (Mechanical Engineering 19)—3 hours, first half-year
MOTORS (Mechanical Engineering 20)—1 hour, second half-year
DYNAMICS OF MOTORS (Mechanical Engineering 21)—1 hour, second half-year
* MICROBIOLOGY—2 hours, and 2 hours laboratory
PUMPS AND PUMPING ENGINES (Mechanical Engineering 27)—Course of 6 lectures, second half-year
FOUNDATIONS (Civil Engineering 11)—2 hours, first half-year
DRAINAGE OF COUNTRY DISTRICTS AND TOWNS (Civil Engineering 21)—2 hours, second half-year
SEWERS AND HARBORS (Civil Engineering 13)—2 hours, second half-year
RAILROAD ENGINEERING (Mechanical Engineering 26)—3 hours, first half of first half-year; (Civil Engineering 9)—3 hours, second half of first half-year; 3 hours, second half-year
DESIGN, PROBLEMS (Civil Engineering 10, 11, 12, and 13)—Afternoon work
PROJECT OR THESIS, on some civil-engineering or sanitary-engineering subject approved by the head of the department

See pages 49–182 for departmental statements with details of the above courses

* These courses may be modified and rearranged

COURSE IN ELECTRICAL ENGINEERING

First Year

TRIGONOMETRY (Mathematics 10)—5 hours, first part of first half-year
ALGEBRA (Mathematics 10)—5 hours, second part of first half-year
ANALYTICAL GEOMETRY (Mathematics 11)—5 hours, second half-year
PHYSICS (Physics 1)—3 hours
CHEMISTRY (Chemistry 1)—4 hours
QUALITATIVE ANALYSIS (Chemistry 7)—2 hours, and on alternate weeks 4 afternoons laboratory and Saturday morning in laboratory
DESCRIPTIVE GEOMETRY AND DRAWING (Mechanical Engineering 1)—2 hours, and 2 afternoons drawing-room
SHOP WORK (Mechanical Engineering 3a and 4a)—1 afternoon in shop

Summer Vacation

SUMMER WORK, a set of drawings on subjects to be assigned by the Instructor in Drawing

NOTE—For those students who desire additional manual training there is a Summer Class in Shop Work, at the Teachers College (Mechanical Engineering 5), for three weeks (100 hours) in June, provided that not less than twenty students present themselves for this instruction. The fee for this extra instruction is fifteen dollars

Second Year

CALCULUS (Mathematics 6)—3 hours
PHYSICS (Physics 3)—2 hours
PHYSICAL LABORATORY (Physics 3)—6 hours
INDUSTRIAL CHEMISTRY (Chemistry 24)—3 hours
QUANTITATIVE ANALYSIS (Chemistry 11)—15 lectures and 60 hours laboratory work, first half-year
PROPERTIES OF MATERIALS (Mechanical Engineering 10)—2 hours, second half-year
ELEMENTS OF ELECTRICAL ENGINEERING (Electrical Engineering 7)—1 hour, first half-year; 2 hours, second half-year
ENGINEERING OF POWER PLANTS (Mechanical Engineering 11)—1 hour, second half-year
GRAPHICS AND DRAWING (Mechanical Engineering 1 and 2)—2 hours, and 2 afternoons drawing-room
SHOP WORK (Mechanical Engineering 6a and 7a)—1 hour, first half-year, and 1 afternoon in shop

Summer Vacation

MEMOIR, on subjects to be assigned by the Professor of Electrical Engineering

See pages 49–182 for departmental statements with details of the above courses

COURSE IN ELECTRICAL ENGINEERING

Third Year

ANALYTICAL MECHANICS (Mechanics 1)—3 hours

RESISTANCE OF MATERIALS (Civil Engineering 5)—3 hours, and 2 afternoons, first half-year; 2 hours, and 2 afternoons, second half-year

PROPERTIES OF MATERIALS (Mechanical Engineering 10)—2 hours, first half-year

TESTING OF MATERIALS (Mechanical Engineering 16)—1 afternoon laboratory, part of each half-year

MECHANICAL ENGINEERING LABORATORY (Mechanical Engineering 17)—1 afternoon, part of each half-year

THE STEAM ENGINE AND ITS ACCESSORIES (Mechanical Engineering 12)—2 hours, first half-year

THE STEAM BOILER AND ITS ACCESSORIES (Mechanical Engineering 13)—2 hours, second half-year

DYNAMO AND MOTOR PRACTICE (Electrical Engineering 1)—3 hours, first half-year

TELEGRAPH AND TELEPHONE (Electrical Engineering 6)—1 hour

DIRECT-CURRENT LABORATORY (Electrical Engineering 10)—1 afternoon

ELECTRIC LIGHTING (Electrical Engineering 4)—3 hours, second half-year

DYNAMO AND MOTOR DESIGN (Electrical Engineering 15)—2 hours conference, 1 afternoon drawing-room, second half-year

THEORY OF DYNAMO AND MOTOR (Mechanics 6)—3 hours, first half-year; (Mechanics 7)—3 hours, second half-year

VACATION CLASS IN MECHANICAL ENGINEERING (Mechanical Engineering 35) *optional*—second half-year

Summer Vacation

A critical description of some existing electric light or power plant, with working drawings

Fourth Year

THERMODYNAMICS (Mechanics 4)—3 hours, second half-year

HEAT AND ITS APPLICATIONS (Mechanical Engineering 19)—3 hours, first half-year

MOTORS (Mechanical Engineering 20)—1 hour, second half-year

DYNAMICS OF MOTORS (Mechanical Engineering 21)—1 hour, second half-year

MACHINERY AND MECHANISM (Mechanical Engineering 18)—2 hours

METALLURGY (Metallurgy 3)—3 hours, second half-year

ELECTRO-CHEMISTRY (Electrical Engineering 3)—1 hour

ELECTRICAL ENGINEERING LABORATORIES (Electrical Engineering 11 and 12)—5 afternoons, first half-year; work in connection with graduation thesis, second half-year

ELECTRIC POWER (Electrical Engineering 2)—2 hours, first half-year

See pages 49–182 for departmental statements with details of the above courses

COURSE IN ELECTRICAL ENGINEERING

Fourth Year (*Continued*)

THEORY OF ALTERNATORS AND TRANSFORMERS (Mechanics 8)—3 hours, first half-year

ELECTRIC RAILWAY (Electrical Engineering 8)—2 hours, second half-year

MANAGEMENT OF ELECTRICAL PLANTS (Electrical Engineering 22)—2 hours, second half-year

ELECTRICAL DISTRIBUTION (Electrical Engineering 23)—2 hours, first half-year

THEORY OF VARIABLE CURRENTS (Mechanics 9)—2 hours, second half-year

ADVANCED THEORY OF ELECTRICITY (Mechanics 14, 14a, 15, 16, or 17), *optional*

THESIS, ORIGINAL INVESTIGATION, OR DESIGN, the subject of which must be approved by the Professor of Electrical Engineering

See pages 49–182 for departmental statements with details of the above courses

COURSES IN MECHANICAL ENGINEERING

First Year

TRIGONOMETRY (Mathematics 10) — 5 hours, first part of first half-year

ALGEBRA (Mathematics 10) — 5 hours, second part of first half-year

ANALYTICAL GEOMETRY (Mathematics 11) — 5 hours, second half-year

PHYSICS (Physics 1) — 3 hours

PHYSICAL LABORATORY (Physics 3) — 5 hours, first half-year; 3 hours, second half-year

CHEMISTRY (Chemistry 1) — 4 hours, first half-year; 3 hours, second half-year

QUALITATIVE ANALYSIS (Chemistry 7) — 2 hours, and Friday afternoon and Saturday morning laboratory

DESCRIPTIVE GEOMETRY AND DRAWING (Mechanical Engineering 1) — 2 hours, and 2 afternoons drawing-room

SHOP WORK (Mechanical Engineering 3 and 4) — Equivalent to 2 afternoons in shop

Summer Vacation

SUMMER CLASS IN SHOP WORK (Mechanical Engineering 5) — 100 hours in not over 3 weeks in June

MEMOIR OR DRAWINGS, on subjects to be assigned by the Instructor in Drawing (Mechanical Engineering 36)

Second Year

CALCULUS (Mathematics 6) — 3 hours

PHYSICS (Physics 3) — 2 hours

PHYSICAL LABORATORY (Physics 3) — 2 hours

INDUSTRIAL CHEMISTRY (Chemistry 24) — 3 hours

PROPERTIES OF MATERIALS (Mechanical Engineering 10) — 2 hours, second half-year

ENGINEERING OF POWER PLANTS (Mechanical Engineering 11) — 1 hour, second half-year

ELEMENTS OF ELECTRICAL ENGINEERING (Electrical Engineering 7) — 1 hour, first half-year; 2 hours, second half-year

GRAPHICS AND DRAWING (Mechanical Engineering 1 and 2) — 2 hours, and 2 afternoons drawing-room

SHOP WORK (Mechanical Engineering 6 and 7) — 1 hour and 3 afternoons, and Saturdays shop practice

Summer Vacation

SUMMER CLASS IN SHOP WORK (Mechanical Engineering 8) — 100 hours in not over 3 weeks in June

MEMOIR, on some subject to be assigned by the Professor of Mechanical Engineering (Mechanical Engineering 37)

See pages 49–182 for departmental statements with details of the above courses

COURSES IN MECHANICAL ENGINEERING

Third Year

ANALYTICAL MECHANICS (Mechanics 1) — 3 hours

THE STEAM ENGINE (Mechanical Engineering 12) — 2 hours, first half-year

THE STEAM BOILER (Mechanical Engineering 13) — 2 hours, second half-year

MACHINERY AND MECHANISM (Mechanical Engineering 18) — 2 hours

DESIGN (Mechanical Engineering 41) — 3 hours

ENGINEERING DESIGN AND DRAWING (Mechanical Engineering 23) — 1 hour

TESTING OF MATERIALS OF ENGINEERING (Mechanical Engineering 16) — 2 afternoons, part of each half-year, and Saturdays laboratory work

MECHANICAL ENGINEERING LABORATORY (Mechanical Engineering 17) — 2 afternoons, part of each half-year

DYNAMO AND MOTOR PRACTICE (Electrical Engineering 1) — 3 hours, first half-year

ELECTRIC LIGHTING (Electrical Engineering 4) — 3 hours, second half-year

METALLURGY OF IRON AND STEEL (Metallurgy 3) — 3 hours, second half-year

ELECTRICAL ENGINEERING LABORATORY (Electrical Engineering 10) — 1 afternoon

VALVE GEARING FOR ENGINES (Mechanical Engineering 23) — 1 hour

SHOP WORK (Mechanical Engineering 9) — 1 afternoon

WORKSHOP ECONOMICS AND SPECIFICATIONS (Mechanical Engineering 30) — 1 hour

DRAWING (Mechanical Engineering 22) — 1 afternoon

VACATION CLASS IN MECHANICAL ENGINEERING (Mechanical Engineering 35)

Summer Vacation

SUMMER SCHOOL IN METALLURGY OF IRON AND STEEL (Metallurgy 20) — 2 weeks

MEMOIR, on subjects to be assigned by the Professor of Mechanical Engineering (Mechanical Engineering 38)

See pages 49–182 for departmental statements with details of the above courses

DYNAMIC ENGINEERING ALTERNATIVE, OR COURSE A

NOTE—The first three years are the same for all Alternatives

Fourth Year

THERMODYNAMICS (Mechanics 4)—3 hours, second half-year

HEAT AND ITS APPLICATIONS (Mechanical Engineering 19)—3 hours, first half-year

PUMPS, PUMPING, AND SPECIAL ENGINES (Mechanical Engineering 27)—Special lectures, latter part of second half-year

DYNAMICS OF MOTORS (Mechanical Engineering 20 and 21)—2 hours, second half-year

RAILWAY MOTIVE POWER AND MACHINERY (Mechanical Engineering 26)—3 hours, first part of first half-year; (Civil Engineering 9)—3 hours, second part of first half-year, and second half-year

HYDRAULICS (Civil Engineering 12)—2 hours, first half-year

MASONRY STRUCTURES (Civil Engineering 4)—1 hour

STEAM-ENGINE DESIGN (Mechanical Engineering 28)—2 hours

SHOP AND FACTORY ORGANIZATION AND MANAGEMENT (Mechanical Engineering 29)—1 hour, second half-year

MINE PLANT (Mining 7)—3 hours, first half-year; 2 hours, second half-year

ELECTRIC POWER (Electrical Engineering 2)—3 hours, first half-year

ELECTRIC RAILWAY (Electrical Engineering 8)—2 hours, second half-year

HYDRAULIC MOTORS LABORATORY (Mechanical Engineering 25), second half-year

HEAT AND STEAM ENGINEERING LABORATORY (Mechanical Engineering 24)—In connection with thesis work

LOCOMOTIVE LABORATORY (Mechanical Engineering 26)

DRAWING (Mechanical Engineering 22 and 28)

THESIS, original investigation or professional problem on a subject approved by the Professor of Mechanical Engineering.

See pages 49–182 for departmental statements with details of the above courses

ELECTRICAL ALTERNATIVE, OR COURSE B

NOTE—The first three years are the same for all Alternatives

Fourth Year

THERMODYNAMICS (Mechanics 4)—3 hours, second half-year

HEAT AND ITS APPLICATIONS (Mechanical Engineering 19)—3 hours, and laboratory practice, first half-year

PUMPS, PUMPING, AND SPECIAL ENGINES (Mechanical Engineering 27)—Special lectures, latter part of second half-year

DYNAMICS OF MOTORS (Mechanical Engineering 20 and 21)—2 hours, second half-year

RAILWAY MOTIVE POWER AND MACHINERY (Mechanical Engineering 26)—3 hours, first part of first half-year ; (Civil Engineering 9)—3 hours, latter part of first half-year, and second half-year

STEAM-ENGINE DESIGN (Mechanical Engineering 28)—2 hours

SHOP AND FACTORY ORGANIZATION AND MANAGEMENT (Mechanical Engineering 29)—1 hour

HYDRAULICS (Civil Engineering 12)—2 hours, first half-year

ELECTRIC POWER (Electrical Engineering 2)—3 hours, first half-year

ELECTRICAL ENGINEERING (Electrical Engineering 3 and 4)—1 hour, first half-year, and 3 hours, second half-year

ELECTRICAL ENGINEERING (Electrical Engineering 6)—1 hour

THEORY OF DYNAMO AND MOTOR (Mechanics 6 and 7)—3 hours

ELECTRIC RAILWAY (Electrical Engineering 8)—2 hours, second half-year

HYDRAULIC MOTORS LABORATORY (Mechanical Engineering 25), second half-year

HEAT AND STEAM ENGINEERING LABORATORY (Mechanical Engineering 24)—In connection with thesis work

ELECTRICAL ENGINEERING LABORATORY (Mechanical Engineering 11 and 12)—3 afternoons

DRAWING (Mechanical Engineering 28)

THESIS, original investigation or professional problem on a subject approved by the Professor of Mechanical Engineering

See pages 49-182 for departmental statements with details of the above courses

MINING ALTERNATIVE, OR COURSE C

NOTE—The first three years are the same for all Alternatives

Fourth Year

THERMODYNAMICS (Mechanics 4)—3 hours, second half-year

HEAT AND ITS APPLICATIONS (Mechanical Engineering 19)—3 hours, and laboratory practice, first half-year

DYNAMICS OF MOTORS (Mechanical Engineering 20 and 21)—2 hours, second half-year

PUMPS, PUMPING, AND SPECIAL ENGINES (Mechanical Engineering 27)—Special lectures, latter part of second half-year

SHOP AND FACTORY ORGANIZATION AND MANAGEMENT (Mechanical Engineering 29)—1 hour

HYDRAULICS (Civil Engineering 12)—2 hours, first half-year

EXCAVATION AND TUNNELLING (Mining 1)—3 hours, first half-year

BORING AND SHAFT SINKING (Mining 2)—2 hours, second half-year

MINE ENGINEERING (Mining 6)—2 hours, first half-year, and 1 hour, second half-year

ORE DRESSING (Mining 4)—2 hours

ORE-DRESSING LABORATORY (Mining 5)—Afternoons for 3 weeks, second half-year

MINE PLANT (Mining 7)—3 hours, first half-year, and 2 hours, second half-year

HEAT AND STEAM ENGINEERING LABORATORY (Mechanical Engineering 24)—If required in connection with thesis work, first half-year

ELECTRIC POWER (Electrical Engineering 2)—3 hours, first half-year

ELECTRIC RAILWAY (Electrical Engineering 8)—2 hours, second half-year

DRAWING, if required in connection with thesis work

THESIS, original investigation or professional problem on a subject approved by the Professor of Mechanical Engineering

See pages 49–182 for departmental statements with details of the above courses

COURSE IN ARCHITECTURE

First Year

ARCHITECTURAL ENGINEERING (Architecture 14a)—3 hours

ELEMENTS OF ARCHITECTURE (Architecture 8)—2 hours, second half-year

ANCIENT ARCHITECTURAL HISTORY (Architecture 1)—3 hours

HISTORY OF ANCIENT ORNAMENT (Architecture 5)—1 hour

ARCHÆOLOGY, FRENCH (Architecture 16)—2 hours

ELEMENTARY DESIGN (Architecture 15)—1 hour

PROJECTIONS, SHADES, AND SHADOWS (Architecture 10)—2 hours, first half-year

ARCHITECTURAL ESSAYS (Architecture 17)—1 hour

DRAWING, ARCHITECTURAL AND FREEHAND (Architecture 9a and 9b)—17 hours

HISTORICAL DRAWING (Architecture 9c)—2 hours

SURVEYING (Civil Engineering 1) *optional*—2 hours, second half-year

Summer Vacation

SURVEYING (Civil Engineering 15) *optional*—6 weeks field work

SUMMER WORK—Historical Memoir, sketches and drawings

Second Year

PERSPECTIVE (Architecture 11)—12 lectures

ARCHITECTURAL ENGINEERING (Architecture 14b)—3 hours

MODERN ARCHITECTURAL HISTORY (Architecture 3)—2 hours

MEDIÆVAL ARCHITECTURAL HISTORY (Architecture 2)—2 hours, first half-year; 2 hours, and 12 hours research, second half-year

[Given in 1900–1901, alternates with Architecture 3]

ARCHÆOLOGY, GERMAN (Architecture 16)—2 hours

HISTORY OF MEDIÆVAL ORNAMENT (Architecture 6)—1 hour

[Given in 1900–1901, alternates with Architecture 7]

HISTORY OF MODERN ORNAMENT (Architecture 7)—1 hour

[Given in 1899–1900, alternates with Architecture 6]

THEORY OF ARCHITECTURE (Architecture 4)—1 hour

DESIGN, PROBLEMS (Architecture 15)—15 hours, first half-year

HISTORICAL DESIGN (Architecture 3 and 15)—3 hours, second half-year

ARCHITECTURAL ESSAYS (Architecture 17)—1 hour

DRAWING, FREEHAND (Architecture 9)—7 hours

Summer Vacation

SURVEYING (Civil Engineering 16) *optional*—6 weeks field work

SUMMER WORK—Historical Memoir, sketches and drawings

See pages 49–182 for departmental statements with details of the above courses

COURSE IN ARCHITECTURE

Third Year

ARCHITECTURAL ENGINEERING (Architecture 14c)—6 hours

MODERN ARCHITECTURAL HISTORY (Architecture 3)—2 hours

[Given in 1899–1901, alternates with Architecture 2]

MEDIÆVAL ARCHITECTURAL HISTORY (Architecture 2)—2 hours, first half-year; 2 hours, and 15 hours research, second half-year

[Given in 1900–1901, alternates with Architecture 3]

HISTORY OF MEDIÆVAL ORNAMENT (Architecture 6)—1 hour

[Given in 1900–1901, alternates with Architecture 7]

HISTORY OF MODERN ORNAMENT (Architecture 7)—1 hour

[Given in 1899–1900, alternates with Architecture 6]

THEORY OF ARCHITECTURE (Architecture 4)—1 hour

SPECIFICATIONS (Architecture 13a)—2 hours

BUILDING MATERIALS (Architecture 13b)—2 hours

DESIGNS, PROBLEMS (Architecture 15)—15 hours, first half-year

HISTORICAL DESIGN (Architecture 3 and 15)—3 hours, second half-year

ARCHITECTURAL ESSAYS (Architecture 17)—1 hour

DRAWING, FREEHAND (Architecture 9, 18)—2 hours

Summer Vacation

SUMMER WORK—Memoir on some subject assigned by the Professor of Architecture; sketches and drawings

Fourth Year

ADVANCED ARCHITECTURAL HISTORY (Architecture 18)—2 hours

ADVANCED ARCHITECTURAL DESIGN (Architecture 19)—25 hours

ADVANCED ARCHITECTURAL ENGINEERING AND PRACTICE (Architecture 20 and 21)—15 hours, and 15 hours practice

DESCRIPTIVE GEOMETRY (Architecture 12)—1 hour, first half-year

STEREOTOMY (Architecture 12)—1 hour, second half-year

DRAWING, FIGURE, ORNAMENT, AND WATER COLORS (Architecture 9)—2 hours

THESIS, original design and discussion

See pages 49–182 for departmental statements with details of the above courses

By-Laws

1. At the beginning of the first year each student must elect which of the several courses he intends to pursue, and must thenceforth abide by his election unless permitted by the Dean to make a change.

2. No student is allowed to pursue more than one course at a time.

3. For reasons of weight, the substitution of a subject in one course for an equivalent in another course may be made by the Dean on the request of any candidate for a degree, provided that such substitution have the approval of the heads of the departments concerned, and of the department giving the technical instruction that leads to the degree for which the student is a candidate.

Admission

4. Candidates for admission to the first class, at its formation, must be of the age of *eighteen years*, complete; and for admission to advanced standing there will be required a corresponding increase of age; but this rule may be modified when, in the opinion of the Committee on Admissions and Examinations, there are sufficient reasons to justify its relaxation.

Enrolment and Certificates

5. An applicant for admission must file with the Bursar, at least one week before the day fixed for the entrance examinations, a certificate from his principal instructor containing a definite statement of the subjects which he is qualified to offer for examination.

No student will be examined in June, 1900, whose name is not enrolled and whose certificate is not filed on or before Monday, June 11th, of the same year; nor will any student be examined in September, 1900, whose name is not enrolled and whose certificate is not filed on or before Monday, September 17th.

Blank forms of the certificates required can be had upon application to the Bursar. In the case of students expecting to be examined at a distance, the names must be enrolled and the certificates filed one week earlier.

6. Every candidate must, before admission, present a certificate of good moral character from his last teacher, or from some citizen in good standing, and students from other institutions must bring certificates of honorable dismission.

Entrance Examinations

7. Candidates for the first class must pass satisfactory examinations in: Mathematics, Physics, Chemistry, English, French, German, History, and Freehand Drawing.

Mathematics:

Arithmetic: No formal examination as a separate requirement. A knowledge of the metric system and the ability to reckon accurately are to be presupposed.

Algebra (*a*) : Factors, common divisors and multiples, fractions, equations of the first degree, with one or more unknown quantities, involution, evolution, the doctrine of exponents, radicals, radical equations reducible to equations of the first degree, and putting problems into equations.

Algebra (*b*) : Quadratic equations, and such equations with one or more unknown quantities as can be solved by the methods of quadratic equations, ratio and proportion, arithmetical and geometrical progressions, the binomial theorem for positive entire exponents, and the principle of undetermined coefficients including its application to series and partial fractions.

Geometry (*a*) : Plane geometry, including the solution of simple original exercises and numerical problems.

Geometry (*b*) : Solid and spherical geometry, including the solution of simple original exercises and numerical problems.

Plane trigonometry : The elementary principles of logarithms, the use of tables of logarithms of numbers and of logarithms of trigonometric functions, and the solution of right-angled and of oblique-angled plane triangles.

Physics :

The equivalent of Hall's and Bergen's text-book of physics.

An approved laboratory course of at least forty experiments, actually performed at school by the candidates.*

Chemistry :

The non-metallic elements and their important compounds with each other, as usually given in high-school text-books.

An approved laboratory course of at least forty experiments, actually performed at school by the candidate, as given in Remsen's, or Armstrong and Norton's Laboratory Manuals.*

English :

No applicant will be accepted in English whose work is notably defective in point of spelling, grammar, idiom, punctuation, or division into paragraphs.

1. READING AND COMPOSITION. The candidate will be required to present evidence of a general knowledge of the subject-matter of the prescribed books, and to answer simple questions on the lives of their authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him on the examination paper. The treatment of these topics is designed to show the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In place of a part or the whole of this test, the candidate may present

* For the present students who may be admitted with conditions in laboratory work in chemistry or physics will be given opportunity to perform the required experiments in the laboratories of the University.

an exercise book,* properly certified by his instructor, containing compositions or other written work done in connection with the reading of the books.

The candidate is expected to read intelligently all the books prescribed. He should read them as he reads other books; he is not expected to know them minutely, but to have freshly in mind their most important parts. In preparation for this part of the requirement, it is important that the candidate shall have been instructed in the fundamental principles of rhetoric.

Candidates offering this part of the requirement as a preliminary subject should be prepared on the books prescribed for the year in which they are to take their final examination, *i. e.*, candidates who are to be examined on part 2 of the English requirement in 1900 should present themselves for examination in 1899 on part 1 of the list for 1900.

The books prescribed for this part of the examination are as follows:

In 1900: Dryden's Palamon and Arcite; Pope's Iliad, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in the Spectator; Goldsmith's Vicar of Wakefield; Scott's Ivanhoe; De Quincey's Flight of a Tartar Tribe; Cooper's Last of the Mohicans; Tennyson's Princess; Lowell's Vision of Sir Launfal.

In 1901: Shakspere's Merchant of Venice; Pope's Iliad, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in the Spectator; Goldsmith's Vicar of Wakefield; Coleridge's Ancient Mariner; Scott's Ivanhoe; Cooper's Last of the Mohicans; Tennyson's Princess; Lowell's Vision of Sir Launfal; George Eliot's Silas Marner.

In 1902: Shakspere's Merchant of Venice; Pope's Iliad, Books I, VI, XXII, and XXIV; The Sir Roger de Coverley Papers in the Spectator; Goldsmith's Vicar of Wakefield; Coleridge's Ancient Mariner; Scott's Ivanhoe; Cooper's Last of the Mohicans; Tennyson's Princess; Lowell's Vision of Sir Launfal; George Eliot's Silas Marner.

2. STUDY AND COMPOSITION. This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon the subject-matter, the literary form, and the logical structure.

The candidate may be required, in addition, to answer questions involving the essentials of English grammar, and questions on the leading facts in those periods of English literary history to which the prescribed works belong.

In connection with the reading and study of the required books, parallel or subsidiary reading should be encouraged, and a considerable amount of English poetry should be committed to memory. The essentials of English grammar should not be neglected in preparatory study.

The books prescribed for this part of the examination are as follows:

In 1900: Shakspere's Macbeth; Milton's Paradise Lost, Books I and II; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

In 1901: Shakspere's Macbeth; Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; Burke's Speech on Conciliation with America; Macaulay's Essays on Milton and Addison.

* Specific directions with regard to the preparation of such exercise books may be obtained by addressing the Department of Rhetoric, Columbia University.

In 1902 : Shakspere's Macbeth ; Milton's Lycidas, Comus, L'Allegro, and Il Penseroso ; Burke's Speech on Conciliation with America ; Macaulay's Essays on Milton and Addison.

French :

(1) The translation at sight of ordinary nineteenth-century prose.

It is important that the passages set be rendered into clear and idiomatic English. It is believed that the power of translating at sight ordinary nineteenth-century prose can be acquired by reading not less than four hundred duodecimo pages from the works of at least three different authors. Not more than one-half of this amount ought to be from works of fiction. This number of pages is to include not only prepared work, but all sight reading done in class.

(2) The translation from English into French of sentences or of a short connected passage to test the candidate's familiarity with elementary grammar.

Elementary grammar is understood to include the conjugations of regular verbs, of the more frequent irregular verbs, such as *aller*, *envoyer*, *tenir*, *pouvoir*, *voir*, *vouloir*, *dire*, *savoir*, *faire*, and those belonging to the classes represented by *ouvrir*, *dormir*, *connaître*, *conduire*, and *craindre ;* the forms and positions of personal pronouns, the uses of other pronouns and of possessive, demonstrative, and interrogative adjectives ; the inflection of nouns and adjectives for gender and number, except rare cases ; the uses of articles, and the partitive constructions.

NOTE—An adequate preparation for this examination ought to extend over two or three years at the ordinary pace of school work. In exceptional cases, one year with five hours recitations per week may possibly meet the requirement. Pronunciation should be carefully taught and pupils be trained to some extent to hear and understand spoken French. The writing of French from dictation is recommended as a useful exercise.

NOTE—By recent action of the faculty, students may substitute for French the Latin entrance requirement of Columbia College, or may offer in special cases an equivalent preparation in Spanish as follows :

Spanish :

(1) The translation at sight of ordinary Spanish prose.

It is important that the passages set be rendered into clear and idiomatic English. It is believed that the power of translating at sight ordinary prose can be acquired by reading not less than four hundred duodecimo pages from the works of at least three different authors. This number of pages is to include not only prepared work, but all sight reading done in class.

(2) The translation from English into Spanish of sentences or of a short connected passage, to test the candidate's familiarity with elementary grammar.

Elementary grammar is understood to include the conjugation of regular and auxiliary verbs, of the most frequent irregular verbs, such as *audar*, *creer*, *decir*, *hacer*, *ir*, *poder*, *poner*, *querer*, *saber*, *sentir*, *tener*, *venir*, *ver ;* the forms and

positions of personal pronouns, the uses of possessive, demonstrative, and interrogative pronouns and adjectives ; the inflection of nouns and adjectives for gender and number ; the principles of agreement and of simple phrase construction.

NOTE—Pronunciation should be carefully taught and pupils be trained to some extent to hear and understand spoken Spanish. The writing of Spanish from dictation is recommended as a useful exercise.

German :

(1) The rudiments of grammar, and especially these topics : the declension of articles, adjectives, pronouns, and such nouns as are readily classified ; the conjugation of weak and of the more usual strong verbs ; the commoner prepositions ; the simpler uses of the modal auxiliaries ; the elementary rules of syntax and word order. The proficiency of the applicant will be tested by questions on the above topics and by the translation into German of simple English sentences.

(2) Translation at sight of a passage of easy prose containing no rare words. It is believed that the requisite facility can be acquired by reading not less than two hundred duodecimo pages of simple German.

NOTE—An adequate preparation for this examination ought to extend over two or three years, at the ordinary pace of school work. In exceptional cases, one year with five hours recitations per week may possibly meet the requirement. Practice in pronunciation, in writing German from dictation, and in the use of simple German phrases in the class-room is recommended.

History :

On the equivalent of Johnston's History of the United States.

Freehand Drawing : For candidates for admission to the School of Architecture :

The ability to draw correctly any simple geometrical figure from dictation, and to enlarge or reduce from a copy in outline an anthemion, an acanthus leaf, a design of iron scroll-work, or some similar ornament. For this work correct construction and accuracy of proportion are more important than fineness of execution.

Out-of-town examiners are requested to apply to the School of Architecture for examples of the sort of drawings that are required.

Freehand Drawing : For candidates for admission to the other schools :

The ability to sketch, both in outline and with proper shading, ordinary objects, such as a house, a simple piece of machinery, a piece of flat ornament from a copy, a group of geometrical solids.

Each applicant must execute the required drawings in the presence of the examining officer. No certificate of drawings made elsewhere will be accepted.

8. In 1900 entrance examinations will be held at the University on Tuesday, June 12, and days following, and on Monday, September 24, and days following.

By permission of the Committee on Admissions and Examinations, on suitable application, entrance examinations may be held at any time during the session.

For the convenience of candidates for admission residing at a distance from New York, examinations for entrance will be held at other cities in June, 1900 (but not in September), on the same days as at the University, by the following gentlemen :

Belmont, California, by W. T. REID, A.M., *Head Master of the Belmont School.*
Bozeman, Montana, by F. W. TRAPHAGEN, Ph.D., F.C.S.
Charleston, South Carolina, by P. E. CHAZAL, A.B., E.M.
Chicago, Illinois, by E. G. BARRATT, C.E.
Cincinnati, Ohio, by DAVID FOERSTER, E.M.
Cleveland, Ohio, by R. F. JOPLING, E.M.
Concord, New Hampshire, by C. S. KNOX, A.M.
Denver, Colorado, by T. B. STEARNS, E.M.
St. Louis, Missouri, by W. B. POTTER, A.M., E.M.
Salt Lake City, Utah, by R. H. TERHUNE, E.M.
Paris, France, E. P. DENNY, A.M.

9. The applicant may present himself in a portion of the subjects in June, and complete his examinations in September of the same year. But no examination for admission will be allowed to stand to the credit of an applicant for a period longer than sixteen months.

Preliminary Examinations

10. An applicant duly enrolled, who has filed the required certificate from his principal teacher, may, at the appointed examination time in May or June of the year preceding his admission into the first class, but not at any other time, be examined on certain portions of the foregoing subjects. Such an applicant may offer at the preliminary examination the following subjects :

Algebra (*a*).
Geometry (*a*).
Physics.
Chemistry.
English, Reading and Composition.
French.
German.
History.
Freehand Drawing.

The following subjects may not be offered at the preliminary examination :

Algebra (*b*).
Geometry (*b*).
Trigonometry.
English, Study and Composition.

Diplomas and Certificates in Lieu of Examination

11. Diplomas and certificates of colleges and schools of science will be accepted, for the ground they cover, in lieu of examination, *if satisfactory to the examining officers.** Each examining officer decides the question for his special department. No certificates in lieu of examinations will be accepted, except those of degree-granting institutions, including the Regents of the University of the State of New York.

Admission and Conditions

12. The Committee on Admissions will decide, and report to the Dean, within twelve days after the conclusion of the examinations, those candidates who have been admitted, those who have been admitted conditionally, and those who have been rejected.

13. Students deficient in minor studies may be admitted conditionally, each case being considered on its merits by the Dean. Students admitted conditionally at the beginning of the academic year must satisfy all conditions in Mathematics within three months, and other conditions within a year or at such time as may be determined by the Dean. Students who fail to satisfy their entrance conditions within the time specified may be dropped from the roll.

14. The Committee on Admissions has jurisdiction over all questions arising under the rules relating to entrance examinations.

Advanced Standing

15. Candidates for advanced standing must pass satisfactory examinations upon the studies stated in By-Law 7, and also upon those pursued by the class up to the time at which they propose to enter.

16. No candidates are admitted later in the course than the beginning of the fourth year.

Attendance

17. Prompt attendance is required upon all exercises. Each instance of tardiness will be counted as half an absence.

18. Attendance during all the hours specified on the scheme of attendance adopted by the Faculty is obligatory.

19. Any student who shall have been absent from more than ten per cent. of the exercises in any subject, shall not be entitled to examination in that subject.

20. Every student is expected and required to keep an account of his absences, and should he exceed the limit allowed in any course, he must present to the Dean, during the week preceding the stated examination, satisfactory explanation of all his absences, or be debarred from the examination; but he

* Regents' academic diplomas, of 48 or more counts, are accepted in lieu of examinations for entrance, provided that such diplomas include 14 academic counts in Mathematics, and 8 academic counts each in English, German, French, or Latin.

Regents' pass-cards and certificates are accepted for the subjects covered only.

Certificates and diplomas should be submitted to the examining officers, for their approval, before the day set for the entrance examinations in each case.

may present himself at the examination in the fall for debarred and deficient students. If the absences are excessive the Dean may make such further ruling in regard to his examination as may seem to him to be required in his case.

21. Any student who shall be persistently irregular in attendance on any required exercise, or who shall fail to make satisfactory progress therein, may be put upon probation * by the Dean at the request of the head of the department concerned.

22. Students are required to attend all the exercises and pass all the examinations of the class and course to which they belong unless specially excused by the Dean.

23. By special permission of the Dean students may attend exercises not required in the class or course to which they belong, provided that such attendance does not interfere with the required exercises of their class and course. Such students are held to the same rules of attendance and examination in the extra studies as in the required studies of their class and course.

24. Any student who shall have passed a satisfactory examination in Columbia College in any study forming a part of one of the regular courses in the Schools under the Faculty of Applied Science will not be required to pursue that study.

Examinations and Standing

25. Examinations will be held at the end of the first half-year (semi-annual), or at the end of the year (annual), on all subjects taught. Examinations for debarred and deficient students will be held during the last ten days of the summer vacation. Examinations at times other than here specified are not held except upon order of the Dean for reasons of weight.

26. Any student found guilty of fraudulent practices at examination will be summarily dismissed.

27. Every officer will keep a record of the scholarship of each student, and at the close of every half-year, and after the stated examination has been held, each officer of instruction will report to the Dean a list of all the students who have attended his instruction, indicating their proficiency by numbers on a maximum of 10, a mark below 6 constituting a failure to pass. Each student's record will be transmitted to him at the close of each year.

28. Any student, who shall fail to pass in any of his studies at the regular semi-annual or annual examination, may present himself for a second examination at the end of the summer vacation; failing to pass in the second examination,

* PROBATION.— Probation means serious danger of separation from the University. A student on probation is not allowed to take part as a student in any public performance or in any public contest; he cannot be recommended for a degree; he may be required to put himself under the direction of a private tutor approved by the Dean, and to take such other measures as may seem to be required to make good his deficiencies. He cannot be restored to full standing without a special vote of the Committee on Administration; and at any time, by a vote of the Faculty, his probation may be closed and his connection with the University ended.

he may be dropped from his class and required to repeat the subject with the next following class, but the Dean may exercise his discretion in excusing him from attendance on such a subject, holding him to such other requirements as may seem advisable; failing a third time to pass a satisfactory examination in any study, his name may be dropped from the roll.

29. Students shall, in the discretion of the Dean, be enrolled in the class in which at least seventy-five per cent. of their hours are taken. Students shall not be enrolled in the fourth class, however, who have conditions in their first or second year, nor shall they be enrolled in the third class if they have entrance conditions or conditions in the first year. A student dropped from the roll of his class will not be permitted to attend any of the exercises of the said class without the consent of the Dean, given for reasons of weight.

30. Students failing in any subject will not be permitted to take advanced studies for which, by reason of such deficiency, they are not properly prepared; nor will they be allowed to attend any summer school without special permission of the Dean.

31. Absence from the regular semi-annual or annual examination, unless excused by the Dean, will be counted a failure to pass that examination. This rule shall apply to examinations for delinquents held at the end of the summer vacation.

32. A student reported in grade 6 in a majority of the subjects pursued by him in any year, and not reported in grade 8, or higher, in the greater part of the remainder of such subjects, will not be permitted to go on with his class without the consent of the Dean, given for reasons of weight, but he may enter the next succeeding class, and pursue such subjects as may be required of him.

33. When a student fails to receive his degree with his class, and returns at some later period to present himself for examination for the same, he will be required to comply with all the requirements at the later date, and the same rule shall apply to students who have received one degree and make application for another.

Memoirs and Summer Work

34. During the vacations following the close of each year, memoirs on subjects which will be assigned are required of students in the courses of Civil Engineering, Electrical Engineering, Mechanical Engineering, of Analytical, Industrial, and Organic Chemistry, and of Architecture. The time specified for the completion and handing in of memoirs in Chemistry and Electrical Engineering is November 1st of each year; for other memoirs and summer work the time specified is the second Monday in October.

35. Students of the second, third, and fourth classes who fail to hand in the memoirs, drawings, and other summer work required of them under the rules at the specified time, shall not be permitted to hand them in until the beginning of the next academic year, and failing in this latter requirement they shall be dropped from the roll of the class. This requirement may be waived, for reasons of weight, in the case of students of the fourth class.

Special Students

36. Graduates of the School of Mines, the School of Chemistry, the School of Engineering, the School of Architecture, and of other institutions of like grade and standing, may pursue any subjects taught in the Schools for which they are properly qualified.

37. Permission to pursue special courses is sometimes given, for reasons of weight, to persons of mature age who are not graduates, but special students are not desired in the regular professional courses.*

The Laboratories and Drawing Academies

38. No student will be allowed in a laboratory or drawing academy at a time when his attendance there is not due. During hours assigned for practical work in each of the laboratories, and in the drawing academies, the attendance of students will be required. A record of the daily attendance and of the progress of each student will be kept by the officer in charge.

39. The attendance of students of the first and second years in the drawing-rooms at such times as they are not engaged at lectures, between 9.30 A.M. and 1.30 P.M., is obligatory for students in Engineering and Architecture, for such hours and times as may be selected by the Professors of Engineering and Architecture.

Order

40. Good order and gentlemanly deportment are required of all students, as a condition of attendance.

NOTE.—To render unnecessary many inquiries it is here stated that there are no dormitories attached to the University at present.

Excursions

During the session, the students may visit the different mines, machine-shops, electrical and metallurgical establishments, chemical works, and points of geological interest of the city and its environs, and excursions for this purpose are frequently organized by the different departments.

CLASS IN MECHANICAL ENGINEERING—During the third year students may join a volunteer class in practical mechanical engineering under the supervision of the Professor of Mechanical Engineering.

Summer Schools

SUMMER SCHOOL IN SURVEYING—During the latter part of the vacations following the close of the first and second years, students in the courses of mining, civil and sanitary engineering, and metallurgy, are required to join the summer school in surveying under the direction of the Instructor in Civil Engineering.

* Except in the School of Architecture, where professional draughtsmen of age and experience are received for periods of two months at a time.

During the latter part of the vacation following the close of the third year, students in the courses of mining and civil engineering are required to attend a class in railroad surveying for a period of four weeks. The students in the mining engineering course have the option of attending this class in the vacation following the close of the second year. This class is under the direction of the Instructor in Civil Engineering.

SUMMER SCHOOL IN GEODESY—During the vacation following the close of the third year, students in the courses of civil and sanitary engineering are required to attend a summer school in geodesy for six weeks. The class is under the supervision of the Professor of Astronomy.

SUMMER SCHOOL IN MINING—During the vacation following the close of the third year, students in the courses of mining engineering and metallurgy are required to visit mines and engage in actual work or study for five weeks, under the superintendence of the Adjunct Professor of Mining. This summer school is open to second year students, *without conditions*, as an optional course.

SUMMER SCHOOL IN CHEMISTRY—Students of the second and third classes attend a summer school in industrial chemistry, under the direction of the instructors in that subject, spending three weeks in visiting and carefully studying chemical works of special interest in and near the city, as well as gas works, petroleum refineries, sugar refineries, dyeing and calico-printing establishments, soap, candle, and oleomargarine works, paper mills, and plants for the purification of water and of sewage.

During the summer vacations drawings or memoirs, on subjects which will be assigned, are required, as well as reports upon chemical works and manufactories which will be visited in company with the instructors in industrial chemistry. The time specified for the completion and handing in of the memoirs is November 1st of each year.

The drawings or memoirs must be accompanied by translations, of greater or less length, from French and German text-books or scientific periodicals, upon subjects assigned to each student.

SUMMER SCHOOL IN METALLURGY—In the latter part of the vacation following the third year, students in metallurgy are required to devote two weeks to practical metallurgy. This summer school is open to students in mining engineering and chemistry as an optional course.

SUMMER SCHOOL IN GEOLOGY—The Trustees of the University have made an appropriation for a summer school in geology which defrays the expenses of a small squad of advanced students for about one month each summer, with the Professor of Geology. Also, in connection with the summer school in practical mining, at least one week is devoted to practical field geology, for the students in the courses of mining engineering and metallurgy.

Equipment and Collections

Detailed information as to the laboratories, museums, collections, libraries, and other facilities for study and research will be found in the departmental statements as follows :

Architecture, page 53
Chemistry, page 62
Civil and Sanitary Engineering, page 74
Electrical Engineering, page 81
Geology, page 99
Mechanical Engineering, page 86
Metallurgy, page 123
Mineralogy, page 127
Mining, page 129
Physics, page 159

Chemical and Assay Apparatus

1 Students may purchase apparatus of any of the dealers in the city.

2 To avoid inconvenience and expense to the students, and to secure a proper selection, the University undertakes, at considerable trouble and expense, to lend apparatus on the following conditions :

(*a*) Each student engaged in chemical or assay laboratory work, who draws apparatus, must make with the Bursar deposits, as follows, which will be credited to him :

Students taking first-year laboratory work in qualitative analysis . . $20
Other chemical or assay laboratory work 40

In case of excessive draughts of apparatus an additional deposit may be required.

(*b*) Each student shall be entitled, on presenting his receipt at the apparatus room, to draw the regular set of apparatus for qualitative analysis, for quantitative analysis, for organic analysis, or for assaying, on account of his deposit, and from time to time to obtain ordinary articles that he may need, which will be charged to him. At the end of the year he will be credited with those articles which he returns in good order, and the value of those which he has injured or broken will be deducted from his deposit.

(*c*) The apparatus room will be open for issuing apparatus every day at convenient hours.

(*d*) No charge is made for ordinary chemicals.

REGISTER OF STUDENTS

FOURTH YEAR CLASS

Mining Engineers

Dickinson, Harold Thomas.....(Mhtn) New York City
Fisher, Robert Mulford.....Mt. Vernon, N. Y.
Fuente, Jesús de la.....Nadadores, Mexico
Fulton, John Allen.....Reno, Nevada
Henne, Christopher, 2d, A.B., *Stanford*.....Los Angeles, Cal.
Hitchcock, Charles Knap, Jr., A.B., *Columbia*.....Bayonne, N. J.
Hood, Duncan Corbert, *U. S. Military Acad*.....New Orleans, La.
Hornor, Roy Rhodes, B.S., *Lehigh*.....Clarksburg, W. Va.
Lacey, Richard Austin.....(Bklyn) New York City
McClelland, James Farley.....Poughkeepsie, N. Y.
McLintock, Archibald.....(Mhtn) New York City
Perry, Oscar Butler, A.B., *Indiana*.....Bloomington, Ind.
Reed, David Carlyle, C.E., *Purdee Univ*.....(Mhtn) New York City
Sales, Reno Haber, B.S., *Montana State Univ*.....Bozeman, Mont.
Steel, Alvin Arthur, B.S., *Univ. of Nebraska*.....Omaha, Neb.
Strauss, Lester.....(Mhtn) New York City

Civil Engineers

Feldman, Max.....(R) New York City
Immediato, Gerardo.....Montclair, N. J.
Le Count, Llewellyn.....(Mhtn) New York City
Lewis, Meyer Henry.....(Mhtn) New York City
Pitt, Rafford.....New Rochelle, N.Y.
Spiller, Robert Lawrence.....(Mhtn) New York City
Wemlinger, Julius Ralph.....(Mhtn) New York City

Electrical Engineers

Ambler, Nathan Babcock.....Chatham, N. Y.
Bard, Ernest Robinson.....(Mhtn) New York City
Barlow, Elbert Spicer.....(Bklyn) New York City
Bates, Louis William.....(Bklyn) New York City
Briggs, Walter Preston.....(Mhtn) New York City
Brown, Hugh Auchincloss.....Rutherford, N. J.
Burns, Dawson Jabez.....(Mhtn) New York City

Cassard, William John, Jr.....(Mhtn) New York City
Clinch, Edward Sears, Jr.....(Mhtn) New York City
Dusenbury, Arthur Newcomb.....Lake Mahopac, N. Y.
Goodwillie, Robert Hogue.....(Mhtn) New York City
Heinekin, William Price.....(R) New York City
Jessup, Warren Canfield.....Augusta, Ga.
Kebler, John Leonard.....(Mhtn) New York City
Koscherak, Ferdinand Eli.....(Mhtn) New York City
Magnus, Benjamin.....(Mhtn) New York City
Morrill, William Charles.....(Mhtn) New York City
Rionda, Manuel Enrique.....(Mhtn) New York City
Roman, Joseph Martin.....Philadelphia, Pa.
Smith, Frank Gerard.....New Rochelle, N. Y.
Solomon, Nathan Clarence, B.S., *N. Y. City College*...(Mhtn) New York City
Wessels, Eugene Herbert.....(Mhtn) New York City

Chemists

Eccles, David Charles.....(Bklyn) New York City
Goodenough, Robert Judson.....(Bklyn) New York City
Josephson, Edgar.....(Bklyn) New York City
Tiemann, Hugh Philip.....(Mhtn) New York City

Architects

Curry, Robert.....(R) New York City
James, Marshall Thomas.....Jersey City, N. J.
Kaufmann, Arthur.....(Mhtn) New York City
Lockward, Lynn Grover.....Caldwell, N. J.
Nelson, Francis Augustus.....(Mhtn) New York City
Plousky, Samuel Edward, A.B., *N. Y. City College*....(Mhtn) New York City
Reiley, Robert Joseph.....(Mhtn) New York City
Steinback, Gustave Erwin.....(Bklyn) New York City
Walsh, Louis Angelo.....Waterbury, Conn.

Fourth Year Class

Mining Engineers	16
Civil "	7
Electrical "	22
Chemists	4
Architects	9
	58

THIRD YEAR CLASS

Mining Engineers

Armstrong, Homer.....Great Falls, Mont.
Colman, Jerome M.....(Mhtn) New York City
Cornell, Russell Todd.....(Mhtn) New York City

Erdal, Oscar Wilson.....Johannesburg, So. African Republic
Goode, Edmund Lowry.....(Bklyn) New York City
Goodman, Maurice, B.S., *N. Y. City College*.....(Mhtn) New York City
Lidgerwood, John Hedges, Jr., Mech.E., *Stevens Inst*.....Morristown, N. J.
Mills, Henry Jayne.....(Bklyn) New York City
Queneau, Augustin Leon Jean, B.S., *Univ. of Paris*..(Mhtn) New York City
Rubidge, Frederick Taber, B.S., *Univ. of Colorado*.....Denver, Colo.
Schimper, Frans Johannis von Maltitz, Bresler's Flat, Winburg, O. F. S., So. Africa.
Schwerin, Clarence Maurice.....(Mhtn) New York City
Stanley, Robert Crooks, Mech.E., *Stevens Inst*.....Montclair, N. J.
Stewart, John Burgoyne.....(Br) New York City
Thayer, Reginald Holden Yonkers, N. Y.
Yung, Morrison Brown, Ph.B., *Sheffield Scientific School*....Hartford, Conn.

Civil Engineers

Bos, George Albur.....(Mhtn) New York City
Brodie, Orrin Lawrence.....(R) New York City
Buchholz, Gustavus William.....(Mhtn) New York City
Burt, Harry Radcliffe.....(Mhtn) New York City
Coykendall, Frank.....Rondout N. Y.
Dougherty, Richard Erwin.....(Mhtn) New York City
DuBois, William Chandler.....Bayonne, N. J.
Ford, Harry Clifford.....(Mhtn) New York City
Hayt, Robert Olcott.....Corning, N. Y.
Hochlerner, Tobias.....(Mhtn) New York City
Hudson, Darwin Shaw, A.B., *Columbia*.....(Q) New York City
Kempner, Milton, A.B., *N. Y. City College*.....(Mhtn) New York City
Ludlam, William Kennedy.....(Mhtn) New York City
Mapes, Charles Mayward.....(Mhtn) New York City
Morrison, Charles Edward, B.S., *N. Y. City College*...(Mhtn) New York City
Oddie, Harold Hoyle.....(Mhtn) New York City
Rae, James Giles.....(Br) New York City
Roell, Antone Joseph.....(Mhtn) New York City
Runge, Albert, C.E., *Penn. Military School*.....(Q) New York City
Serrano Vicente(Mhtn) New York City
Van Deerlin, Reginald Wellesley.....(Mhtn) New York City
Wolff, John Benjamin.....(Mhtn) New York City
Woodward, Robert Simpson, Jr.....(Mhtn) New York City
Zipser, Morris.....(Mhtn) New York City

Electrical Engineers

Bayne, Howard.....(Mhtn) New York City
Brandon, Vivian Isaac.....(Mhtn) New York City
Briesen, Harold.....Weehawken, N. J.

Brown, Caxton.....(Mhtn) New York City
Dixon, James.....(Q) New York City
Doud, Charles Hamilton, A.B., *Yale*.....(Mhtn) New York City
Focardi, Pier-Luigi.....Garwood, N. J.
Goerwitz, William.....(Mhtn) New York City
Golden, Percy Norris.....Elizabeth, N. J.
Green, Robert Corbould.....(Q) New York City
Greene, Myron Evans.....(Mhtn) New York City
Havill, Owen Augustine, A.B., *St. Francis Xavier*.....Jersey City, N. J.
Knowlton, Frederic Kirk.....Rochester, N. Y.
Lawrence, Augustine Neil.....(Mhtn) New York City
Levine, Albert Julius.....(Mhtn) New York City
Meeks, Reginald.....(Mhtn) New York City
Meissner, William Christen.....(Mhtn) New York City
Miller, George Alfred, Jr.....Montclair, N. J.
Morgans, Frank Davis, B.S., *Adelphi College*.....(Bklyn) New York City
Neu, Samuel Sidney.....(Mhtn) New York City
O'Shea, John Edmond.....(Mhtn) New York City
Parker, Lindsay Reed.....(Bklyn) New York City
Parsons, Isaac Dayton.....(Mhtn) New York City
Quackenbush, Leopold Schuyler, Ph.B., *Sheffield Scientific School;* (Mhtn) New York City
Rionda, José Bernardo.....(Mhtn) New York City
Sage, Darrow.....(Mhtn) New York City
Scharf, Henry Warren.....Middletown, N. Y.
Simpson, William Thornton.....(Mhtn) New York City
Sloane, Thomas O'Conor, Jr.....So. Orange, N. J.
Smith, Leonard Bacon, Jr.....(Mhtn) New York City
Stromeyer, William Theodore.....(Br) New York City
ter Meer, Henry Charles.....Hoboken, N. J.
Thurston, Louis Stewart.....Nutley, N. J.
Titus, Samuel Howard.....(Bklyn) New York City
Van Winkle, Edward.....Jersey City, N. J.
von Schrenk, Arnold.....(Mhtn) New York City

Mechanical Engineers

Alsberg, Julius, A.B., *Columbia*.....(Mhtn) New York City
Berliner, Richard Walter.....(Mhtn) New York City
Borden, William Henry, Jr.....Goldsboro, N. C.
Britton, Henry Berry.....(Mhtn) New York City
Clark, Benjamin Franklin, Jr.....Conway, N. H.
Clark, Walter Lemuel.....(Mhtn) New York City
Clarke, Henry Joseph Bowie.....(Mhtn) New York City
Colwell, Lino Montalvo, B.S., *N. Y. City College*.....(Mhtn) New York City
Cregier, Abbott Morgan.....Mt. Vernon, N. Y.
Gillet, Louis Allston, Ph.B., *Sheffield Scientific School*.(Mhtn) New York City

Hopkins, George Gallagher, Jr., A.B., *Columbia*.....(Bklyn) New York City
Kretz, Walter Coluzzi, A.M., Ph.D., *Columbia*.....(Mhtn) New York City
Meehan, John Augustine.....(Mhtn) New York City
Myers, David Moffat.....(Mhtn) New York City
Oakley, Walton Livingston.....(Mhtn) New York City
Read, Clark Potter.....(Mhtn) New York City
Ripley, Julien Ashton, A.B., *Yale*.....(Mhtn) New York City
Robinson, Arthur.....(Mhtn) New York City
Schmidt, Carl Gustav Adolph.....(Mhtn) New York City
Van Horne, John Reginald.....Jersey City, N. J.
Weston, Edward Farraday.....(Mhtn) New York City
Wilson, Lester Godfrey(Mhtn) New York City

CHEMISTS

Bernheim, George Benjamin.....(Mhtn) New York City
Falk, Kaufman George(Mhtn) New York City
Hildreth, Thomas Flagler.....Lockport, N. Y.
Hubbard, George Canning, Jr.....(R) New York City
Le Prince, Louis Adolphe Whitley.....(Mhtn) New York City
Lindsay, William Godson.....(Mhtn) New York City
Minsky, Abram Harold.....(Mhtn) New York City
Moffatt, Miles Rees, A.B., *Columbia*..... .Mamaroneck, N. Y.
Page, Robert Weise.....(Bklyn) New York City
Palmenberg, Oscar Walter.....(Mhtn) New York City
Pickhardt, William Paul, B.S., *Gymnase Coutanah de Neuchatel*,
(Mhtn) New York City

ARCHITECTS

Adenaw, Arthur Paul Frederick.....(Mhtn) New York City
Baer, Herbert Mark.....(Mhtn) New York City
Bartberger, Edward William.....Pittsburg, Pa.
Boehm, Henry Abraham.....(Mhtn) New York City
Clark, Theodore, B.S., *Univ. of Minnesota*.....St. Cloud, Minn.
Colt, Morgan.....Shinnecock Hills, N. Y.
Dominick, William Francis, A.B., *Yale*.....(Mhtn) New York City
Hewitt, Edward Shepard.....(Bklyn) New York City
Hill, Lawrence.....(Mhtn) New York City
Kafka, Hugh, Jr.....(Br) New York City
Kaiser, Charles Sumner Wilkesbarre, Pa.
Keppel, David.....(Mhtn) New York City
Knight, Harold Bartlett.....(Mhtn) New York City
Lang, Eugene Jerome.....(Mhtn) New York City
Lefferts, Franklin Baker.....(Mhtn) New York City
Lindenmeyr, Ludwig.....(Mhtn) New York City
Loney, Frederick Roosevelt Skaneateles, N. Y.
Ray, David Heydorn, A.B., *N. Y. City College*.....(Mhtn) New York City
Wood, Norton Ellsworth(Mhtn) New York City

THIRD YEAR CLASS

Mining Engineers	16
Civil "	24
Electrical "	36
Mechanical "	22
Chemists	11
Architects	19
	128

SECOND YEAR CLASS

MINING ENGINEERS

Adams, Mason Tyler, A.B., *Yale*.....Amherst, Mass.
Aplington, Henry Webster(Mhtn) New York City
Armstead, Daniel MacPherson(Bklyn) New York City
Ashley, Ralph Earl.....Denver, Colo.
Bateson, Charles Edward Wagstaffe.....(Mhtn) New York City
Bishop, Roy Nelson.....Cleveland, Ohio
Carrington, Waring.....Newark, N. J.
Cromwell, Robert Hewitt.....(Bklyn) New York City
Emerson, Edward Hopkins, A.B., *Amherst*.....Amherst, Mass.
Farish, George Edwin.....Denver, Colo.
Feust, Arthur(Br) New York City
Higgins, James Edward.....Butte City, Montana
James, Frederic Wilton(Mhtn) New York City
Lunt, Horace Fletcher, A.B., *Harvard*.....Colorado Springs, Colo.
Maeulen, Frederick.....Evansville, Ind.
Merry, Frederick Charles.....(Mhtn) New York City
Morley, Frederick Hitchcock, A.B., *Yale*.....Colorado Springs, Colo.
Read, Thomas Thornton.....Coltsneck, N. J.
Roberts, Albert, B.S., *Amherst*.....Amherst, Mass.
Rose, Arthur Francis.....Hudson, N. Y.
Russell, Branch Elliott.....Portage, Wis.
Shreve, John Nelson.....(Mhtn) New York City
Stewart, Howard Race.....Launceston, Australia
Ungrich, Martin Jacob.....(Mhtn) New York City
Watson, Charles Edward.....(Mhtn) New York City
Whyte, William de Burgh.....London, England
Wilmot, Harry Clifford.....Redlands, Cal.
Wilson, Charles Henry.....Mt. Vernon, N. Y.

CIVIL ENGINEERS

Bleich, Samuel David, B.S., *N. Y. City College*.....(Mhtn) New York City
Close, Joseph Atwater.....Stamford, Conn.
Evalenko, William Alexander.....(Mhtn) New York City

Fredericks, Anton(Mhtn) New York City
Gaston, Melchor E., A.B., *Univ. of Havana*.....Cardenas, Cuba
Hirschthal, Meyer, B.S., *N. Y. City College*.....(Mhtn) New York City
Irvine, Frederick Brice.....(Mhtn) New York City
Lavery, Daniel O'Connell.....(Mhtn) New York City
Maisenholder, Edward Frederick.....(Mhtn) New York City
Murphy, William Aloysius.....(Mhtn) New York City
Prout, Glover Perrin.....Nutley, N. J.
Rappold, Gustave Adolph.....(Bklyn) New York City
Smith, Madison Wells.....Bridgeport, Conn.
Smyth, David William.....(Mhtn) New York City
Solow, Alexander Saul, B.S., *N. Y. City College*(Mhtn) New York City
Wyckoff, Charles Rapelyea, B.S., *Bklyn. Polytechnic Inst.*,
(Bklyn) New York City

Electrical Engineers

Baumgarten, Charles.....(Mhtn) New York City
Brown, Stanton.....(Mhtn) New York City
Cowing, Percy Foote.....(Mhtn) New York City
Daniels, Harold Platt.....(Mhtn) New York City
Diamant, Sidney.....(Mhtn) New York City
Dickerson, Harold.....Great Neck, L. I.
Freund, Harry Paul.....(Mhtn) New York City
Goepel, Carl Paul.....(Mhtn) New York City
Grant, Oliver Remick.....(Mhtn) New York City
Gray, Clifford.....(Mhtn) New York City
Halsey, Charles Bryant.....(Mhtn) New York City
Hamburger, Samuel.....(Mhtn) New York City
Haviland, Henry Field.....(Mhtn) New York City
Hoguet, Ramsey Charles.....(Mhtn) New York City
Hyman, Wallace Munroe.....(Mhtn) New York City
McAnerney, Joseph Augustine.....(Mhtn) New York City
Menges, Philip Charles, B.S., *N. Y. City College*.....(Mhtn) New York City
O'Donovan, Leo Jeremiah, A.B., *St. Johns*.....(Mhtn) New York City
O'Rourke, Charles Addison, Jr.....(Br) New York City
Powers, Walter Hayward.....Rye, N. Y.
Rosenblatt, Girard B.....(Mhtn) New York City
Rosenthal, Leon Walter.....(Mhtn) New York City
Ross, Samuel McNutt.....Altoona, Pa.
Smith, Charles Hoyt.....(Mhtn) New York City
Solomon, Isaac Rosh.....(Mhtn) New York City
Wallace, William Murray.....(Mhtn) New York City
Warren, William Appleton.....(Mhtn) New York City
Welcke, Celestine John.....(Mhtn) New York City
White, Francis Joseph.....(Bklyn) New York City
Zucker, Arthur A.....(Mhtn) New York City

Mechanical Engineers

Clarke, Robert Walter Maxwell.....(Mhtn) New York City
Crissey, Clarence Philip.....(Mhtn) New York City
Hatch, Walter Percy, Jr.....(Mhtn) New York City
Heyer, Bradford Willard.....(Mhtn) New York City
Marston, Charles Stephen.....Hartford, Conn.
Matty, Leo Joseph.....Denver, Col.
Olmstead, Henry Bailey.....Batavia, N. Y.
Reis, Leslie Robert.....(Mhtn) New York City
Richmond, Julian Pierre William.....(Br) New York City
Rionda, Leandro José.....(Mhtn) New York City
Schlosser, Philip.....(Mhtn) New York City
Swart, Clifford Townsend.....Mt. Vernon, N. Y.
Ver Planck, William Everett.....Fishkill-on-Hudson, N. Y.
Waters, Rossiter Lester.....(Mhtn) New York City
Williamson, Alfred.....(Mhtn) New York City
Wilner, Elias.....(Mhtn) New York City
Witteman, Rudolph Wendelin.....(Bklyn) New York City
Wood, Dennistoun, Jr.....Irvington-on-Hudson, N. Y.

Chemists

Breneman, Harry Campbell.....Cincinnati, O.
Danziger, Joseph Louis.....(Mhtn) New York City
Dickie, Albert Ernest.....(Bklyn) New York City
Dorman, Allison Rice.....Springfield, Mass.
Kanolt, Clarence Whitney.....(Mhtn) New York City
Kohnstamm, Lothair S.....(Mhtn) New York City

Architects

Bradley, James Aikin.....Poughkeepsie, N. Y.
Brown, Elliott Lockwood.....(Mhtn) New York City
Bussmann, Arthur Henry.....(Bklyn) New York City
Crosby, Henry Barrett, Jr.....Paterson, N. J.
Fowler, Lawrence Hall, A.B., *Johns Hopkins*.....Baltimore, Md.
Godwin, Herbert.....(Mhtn) New York City
Harmon, Arthur Loomis.....Chicago, Ill.
Jacoby, George Washington.....(Mhtn) New York City
Lane, Clarence James.....Mt. Vernon, N. Y.
Lay, Charles Downing.....Stratford, Conn.
Le Prince, Leon Fernand.....(Mhtn) New York City
Rogers, William Jordan.....Newburgh, N. Y.
Schoen, Eugene John.....(Mhtn) New York City
Seifert, Karl Francis Joseph.....(Br) New York City
Upton, Harborough Desmond.....(Mhtn) New York City
Warren, Frederick Bryant.....North Adams, Mass.
Warren, William Tilman, B.S., *Alabama Polytechnic Inst.*.(Br) New York City
Willson, Fred Fielding.....Bozeman, Mont.

SECOND YEAR CLASS

Mining Engineers	28
Civil "	16
Electrical "	30
Mechanical "	18
Chemists	6
Architects	18
	116

FIRST YEAR CLASS

MINING ENGINEERS

Austin, Archibald Samuel.....Denver, Col.
Baldwin, William Sage.....Nyack, N. Y.
Bauchelle, John Fletcher.....(Mhtn) New York City
Berrien, Chauncey Leonard.....Clinton, Iowa
Cabot, George Dodge.....(Mhtn) New York City
Constant, Charles Louis, Jr.....(Mhtn) New York City
Cutter, George Pratt.....Montclair, N. J.
De Witt, George Gosman.....(Mhtn) New York City
Fair, Richard Miller.....New Rochelle, N. Y.
Flynn, John Philip, Jr.....Monterey, Mexico
Fusz, Paul Francis, A.B., *St. Louis University*.....St. Louis, Mo.
Harwood, Paul Henry.....No. Ontario, Cal.
Hendrickson, William Harold.....Scarsdale, N. Y.
Hill, Frederick.....Catskill, N. Y.
Holt, Charles.....(Mhtn) New York City
Jacobsen, Harry Barling.....Bayonne, N. J.
Law, Charles Taylor.....(Mhtn) New York City
Macdougall, Charles Willis.....Elizabeth, N. J.
Miller, William Leggett.....(Q) New York City
Mohr, Frederick John.....(Mhtn) New York City
Morrell, Francis Adam, A.B., *Creighton College*.....Omaha, Neb.
Ostrom, Charles Warren.....Jersey City, N. J.
Pelton, Roger Trowbridge.....Poughkeepsie, N. Y.
Rodriguez, Franco.....Mazapil, Mexico
Schroeder, Gilliat Ghequiere.....Bartow, N. Y.
Shaw, Frederick Silas.....Kansas City, Mo.
Wheeler, George Lloyd.....(Mhtn) New York City
Wichman, Frank Maxwell.....Montclair, N. J.

CIVIL ENGINEERS

Bernstein, George William.....(Mhtn) New York City
Beyer, Albin Hermann.....(Bklyn) New York City
Busse, Frank August.....Cincinnati, Ohio
Cooper, Everitt Morton.....(Mhtn) New York City
Cornell, Irwin Hewlett.....(Mhtn) New York City

Fischer, William, B.S., *University of Havana*.....(Mhtn) New York City
Ford, Walter Hoffman.....Demarest, N. J.
Holden, Charles Alexander.....(Br) New York City
Keithley, Roland Hill.....Shackleford, Mo.
Levit, Boris Abraham.....(Mhtn) New York City
Loder, Elwood Hill.....Port Chester, N. Y.
McDowell, Walter St. Leger.....Middletown, Conn.
Murphy, James Leo.....(Mhtn) New York City
O'Dwyer, Frank Xavier.....(Mhtn) New York City
Onderdonk, Arthur.....(Mhtn) New York City
Ruskay, Burrill.....(Mhtn) New York City
Smith, Elbert Osborne, Jr.....(Mhtn) New York City
Whitney, William Brainard.....(Mhtn) New York City
Wolff, Arthur Moses.....(Mhtn) New York City
Worm, Oscar Rudolph Waldimar, Jr.....(Mhtn) New York City
Yates, William Henry.....(Mhtn) New York City

Electrical Engineers

Abreu, Leopoldo G., A.B., *University of Havana*.....(Mhtn) New York City
Biglow, Lem Cavalli.....(Mhtn) New York City
Bradley, Alonzo.....(Mhtn) New York City
Clark, Frederic Baylis.....(Mhtn) New York City
Coggeshall, Allan.....So. Orange, N. J.
Couzens, John Clark.....Yonkers, N. Y.
Crocker, George Augustus, Jr.....(Mhtn) New York City
Evans, William Augustus Darling.....(Mhtn) New York City
Everett, Samuel Harrison, Jr.....(Bklyn) New York City
Glasby, Herbert Stites.....Newark, N. J.
Goodrich, John Serre.....(Mhtn) New York City
Grevatt, Frank Frommel.....Hoboken, N. J.
Griffith, Percy Le Roy.....(Mhtn) New York City
Hoguet, Henri Anthony Louis.....(Mhtn) New York City
Leavitt, Sheldon, Jr.....Irvington-on-Hudson, N. Y.
Lillard, Ogden Whittier Hall.....(Mhtn) New York City
McLaughlin, Cyril Berchman, A.B., *St. Francis Xavier*.(Mhtn) New York City
Major, Henry Cammeyer.....(Mhtn) New York City
Martin, Franklin.....Blythelea, N. J.
Sanguinetti, Philip Cohen.....(Mhtn) New York City
Schmidt, Henry Frederick.....(Mhtn) New York City
Shea, Leonard Patrick Stanislaus.....(Mhtn) New York City
Simons, Arthur Garretson.....(R) New York City
Smith, Raymond Westhorpe.....(Mhtn) New York City
Stebbins, Rowland.....(Mhtn) New York City
Terry, Raphael Rufo.....(Mhtn) New York City
Thurnauer, Arthur Felix.....(Mhtn) New York City
von Taube, Naroush.....(Mhtn) New York City
Wharton, Percival Charles.....East Islip, L. I.

Mechanical Engineers

Collis, Charles.....(Mhtn) New York City
Curry, Malcolm.....(R) New York City
Dittenhoefer, Lester Franklin.....(Mhtn) New York City
Frank, Eugene.....(Mhtn) New York City
Henes, Louis George.....(Mhtn) New York City
Hull, Arthur Burr.....(Mhtn) New York City
Johnston, Charles Orson.....Columbus, Ohio
Kayser, William Dettow.....(Mhtn) New York City
Lockwood, Andrew Fletcher.....(Mhtn) New York City
McIntyre, Thomas A., Jr.....(Mhtn) New York City
Meehan, Vincent Gregory.....(Mhtn) New York City
Moën, Leclanché.....(Mhtn) New York City
Moore, Carl MacDowell.....(Mhtn) New York City
Osborne, Harold Skene.....(Mhtn) New York City
Otis, Sidney.....Yonkers, N. Y.
Pigott, Stephen Joseph.....Cornwall, N. Y.
Pond, Charles Miles.....Port Chester, N. Y.
Robinson, Myron Wilbur.....Englewood, N. J.
Satterlee, Francis Le Roy, Jr.....(Mhtn) New York City
Smallwood, Julian Chase.....(Mhtn) New York City
Underhill, Benjamin Fowler.....New Rochelle, N. Y.
Updike, David Montgomery.....(Mhtn) New York City
Vulté, Nelson Palmer.....New Rochelle, N. Y.
Wallace, William Henry, Jr.....(Br) New York City
Wood, William.....(Mhtn) New York City

Metallurgists

Guyer, Raymond.....Lima, Peru, S. A.
Langmuir, Irving.....(Mhtn) New York City

Chemists

Abraham, Herbert.....(Mhtn) New York City
Buckmaster, Frederic Conant.....Yonkers, N. Y.
Cruser, Frederick Van Dyke.....(Bklyn) New York City
Dempwolf, Charles H., Jr.....York, Pa.
Frank, David Lionel.....(Mhtn) New York City
Frank, Henry.....(Bklyn) New York City
Gulbrandsen, Sverre.....(Bklyn) New York City
Gunther, Charles Godfrey.....(Bklyn) New York City
Haines, Harold Woodbury.....(Mhtn) New York City
Lindeman, Maurice.....(Mhtn) New York City
Mercereau, Gail.....Syracuse, N. Y.
Thompson, John Fairfield.....(Bklyn) New York City
Tibbals, Austin.....Marlborough, N. Y.
Williamson, George Norman, Jr.....(Mhtn) New York City

ARCHITECTS

Beers, William Herman.....Mamaroneck, N. Y.
Bishop, Ogden Mills.....(Mhtn) New York City
Frohne, Henry William.....Mt. Vernon, N. Y.
Gaillard, Frank Paschall.....(Mhtn) New York City
Gibbs, Warren Rockwood.....Chicago, Ill.
Greene, Philip Llewellyn.....(Bklyn) New York City
Hanemann, John Theodore.....(Mhtn) New York City
Ludlow, Thomas William.....(Mhtn) New York City
Palliser, Bruce Sylvester.....Dobbs Ferry, N. Y.
Smith, Clifford Le Roy.....(Mhtn) New York City
Stevens, Thomas Shepherd.....(Bklyn) New York City
Twyeffort, Walter Kleinert.....Washington, Conn.
Weeks, Louis Seabury.....(Mhtn) New York City
Wilson, Robert Paddock, Ph.B., *Wesleyan Univ*.....Middletown, Conn.

FIRST YEAR CLASS

Mining Engineers	28
Civil "	21
Electrical "	29
Mechanical "	25
Metallurgists	2
Chemists	14
Architects	14
	133

SPECIAL STUDENTS

MINING ENGINEERS

Bamberger, Ernest, A.B., *Williams*.....Salt Lake City, Utah
Brackin, Charles Clark, Ph.B., *Oberlin College*.....Cleveland, O.
Cary, John Wilson.....Denver, Col.
Case, George Davenport.....Detroit, Mich.
Eyer, George Alexander.....(Mhtn) New York City
Flint, Robert Philip, Ph.B., *Sheffield Scientific School*.....Los Angeles, Cal.
Lloyd, Nafew Joseph.....(Mhtn) New York City
McCaskell, George William.....Salt Lake City, Utah
Mitchell, William Ellis.....(Mhtn) New York City
Montgomery, Milton Gray, B.L., *University of Wisconsin*.....Omaha, Neb.
Morley, William Raymond, C.E., *Penn. Military College*. .Datil, New Mexico
Truax, Sewall.....Spokane, Wash.
Welles, Germaine.....Rochester, N. Y.

CIVIL ENGINEERS

Bradbury, Richard Robertson, A.B., *Williams*.....Upper Montclair, N. J.
Frank, Augustus Alphonsus.....(Mhtn) New York City
Newlands, Donald Mc Millan.....Buffalo, N. Y.

Electrical Engineers

Brater, August William, Ph.G., *N. Y. College Pharmacy*, (Mhtn) New York City
Ulke, Darwin.....Washington, D. C.

Mechanical Engineers

Church, Bayard.....Yonkers, N. Y.
Denicke, Ernest Henry, B.S., *University of California*...San Francisco, Cal.
Longacre, Orleans, Jr.....(Br) New York City

Chemists

Hardenbergh, Ambrose.....(Mhtn) New York City
Hurt, James Cecil.....Kansas City, Mo.
Jacobson, Samuel Oscar, B.S., *N. Y. City College*.....(Mhtn) New York City
Kenney, Frederick James, Ph.G., *N. Y. College of Pharmacy*,
(Mhtn) New York City
McCaskell, Jasper A., E.E., *Johns Hopkins*.....Salt Lake City, Utah
Stewart, Robert Gearn.....Newburgh, N. Y.
Wright, Alfred.....Washington, D. C.

Architects

Bush, Henry Skillman, B.S., *Kentucky State College*.....Lexington, Ky.
Clark, Edward Palmer, A.B., *Harvard*.....(Mhtn) New York City
Doughty, Edward Crosby, A.B., *Williams*.....Troy, N. Y.
Gallatin, Albert.....(Mhtn) New York City
Gallatin, Frederic, Jr.....(Mhtn) New York City
Greenleaf, J. C.....(Mhtn) New York City
Hyatt, Robert Leal.....(Mhtn) New York City
Jackson, Frank Jake.....Kansas City, Mo.
Mathiasen, William.....Perth Amboy, N. Y.
Naylor, F. L.....(Mhtn) New York City
Rosengarten, Edwin Horace.....Indianapolis, Ind.
Sander, Edwin Jacob.....(Mhtn) New York City
Satterlee, E. L.....(Mhtn) New York City
Smith, Lucian Easter.....Evanston, Ill.
Stophlet, Manfred Milton.....Toledo, Ohio
Trueblood, Wilbur Tyson.....St. Louis, Mo.

Special Students

Mining Engineers	13
Civil "	3
Electrical "	2
Mechanical "	3
Chemists	7
Architects	16
	44

CANDIDATE FOR THE DEGREE OF MASTER OF ARTS

Gower, Charles Arthur.....Lansing, Mich.
Michigan Agricultural College, B.S. 1898
Mechanical Engineering, *Mechanics*, *Astronomy*

For Degree of Master of Arts..... 1

CANDIDATES FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Child, Alfred Thurston.....Woodstock, Conn.
Amherst College, A.B. 1898
Metallurgy, *Geology*, *Chemistry*

Crane, Walter Richard.....Lawrence, Kan.
University of Kansas, A.B. 1895
" " " A.M. 1896
Mining, *Geology*

Lucke, Charles Edward.....(Br) New York City
New York University, M.S. 1899
Mechanical Engineering, *Mechanics*, *Mathematics*

For Degree of Doctor of Philosophy..... 3

Total..... 4

SUMMARY

Undergraduate Students

	First Year	Second Year	Third Year	Fourth Year	Totals
School of Mines					
Mining Engineering.....	28	28	16	16	88
Metallurgy.....	2	—	—	—	2
School of Chemistry.....	14	6	11	4	35
School of Engineering					
Civil Engineering.....	21	16	24	7	68
Electrical Engineering.....	29	30	36	22	117
Mechanical Engineering....	25	18	22	—	65
School of Architecture...	14	18	19	9	60
	133	116	128	58	435

Special Students..... 44

Graduate Students:
For Degree of Master of Arts..... 1
" " " Doctor of Philosophy..... 3
— 4

Students Primarily Registered under this Faculty..... 483

Students from other Faculties of the University:
From the School of Pure Science..... 6

NOTE

At Columbia, the Faculties of Philosophy, Political Science, and Pure Science conduct the work frequently organized in the United States as a graduate school. The organization by separate faculties is preferred at Columbia, because it more clearly differentiates the work of a college from that of a university, the chief object of the former being to give a liberal education, and the chief object of the latter to make specialists, and more clearly distinguishes the main lines of university work from each other; and, also, because it is hoped at Columbia, in course of time, to make all of the professional schools of the University graduate schools. The three Faculties of Philosophy, Political Science, and Pure Science conduct the non-professional work of the University. The details concerning each are given in the order of the establishment of the three faculties at Columbia University.

SCHOOL OF POLITICAL SCIENCE

The following departments are represented in the Faculty:

POLITICAL ECONOMY AND STATISTICS
FINANCE
ECONOMIC THEORY
SOCIOLOGY
HISTORY
POLITICAL PHILOSOPHY
CONSTITUTIONAL LAW
ADMINISTRATIVE LAW
INTERNATIONAL LAW
ROMAN LAW AND COMPARATIVE JURISPRUDENCE

Officers of the Faculty

JOHN W. BURGESS, Ph.D., LL.D.....*Dean and Ex-Officio Member of the University Council*

FRANK J. GOODNOW, LL.D.....*Secretary*

RICHMOND MAYO-SMITH, Ph.D....*Elected Delegate to the University Council*

The Faculty

SETH LOW, LL.D., *President*

JOHN W. BURGESS, Ph.D., LL.D., *Professor of Political Science and Constitutional Law*

RICHMOND MAYO-SMITH, Ph.D., *Professor of Political Economy and Social Science*

*MUNROE SMITH, A.M., J.U.D., *Professor of Roman Law and Comparative Jurisprudence*

FRANK J. GOODNOW, LL.D., *Professor of Administrative Law*

EDWIN R. A. SELIGMAN, LL.B., Ph.D., *Professor of Political Economy and Finance*

* Absent on leave.

HERBERT L. OSGOOD, Ph.D., *Professor of History*
WILLIAM A. DUNNING, Ph.D., *Professor of History and Political Philosophy*
JOHN BASSETT MOORE, LL.D., *Hamilton Fish Professor of International Law and Diplomacy*
FRANKLIN H. GIDDINGS, Ph.D., *Professor of Sociology*
JOHN B. CLARK, Ph.D., *Professor of Political Economy*
JAMES HARVEY ROBINSON, Ph.D., *Professor of History*
WILLIAM MILLIGAN SLOANE, Ph.D., L.H.D., *Seth Low Professor of History*

Other Officers

GEORGE JAMES BAYLES, Ph.D., *Prize Lecturer, 1897–1900, in Ecclesiastical Organization and Government in the United States*
JAMES A. FAIRLIE, Ph.D., *Prize Lecturer, 1898–1901, on Municipal Government*
WILLIAM Z. RIPLEY, Ph.D., *Prize Lecturer, 1899–1902, on European Demography*
ARTHUR M. DAY, A.M., *Instructor in Political Economy and Social Science*

GENERAL STATEMENT

The Faculty of Political Science has charge of the university courses of study and research in political and social science, including history, economics, and public law.

The School of Political Science was opened on Monday, the fourth day of October, 1880.

It is the purpose of the school to give a complete general view of all the subjects of public policy, both internal and external, from the threefold point of view of history, law, and philosophy. The prime aim is therefore the development of all the branches of the political and social sciences. The secondary and practical objects are:

(*a*) To fit young men for all political branches of the public service.

(*b*) To give an adequate economic and legal training to those who intend to make journalism their profession.

(*c*) To supplement, by courses in public law and comparative jurisprudence, the instruction in private municipal law offered by the Faculty of Law.

(*d*) To educate teachers of political and social science.

To these ends courses of study are offered of sufficient duration to enable the student not only to attend the lectures and recitations with the professors, but also to consult the most approved treatises upon the political sciences and to study the sources of the same.

Young men who wish to obtain positions in the United States Civil Service—especially in those positions in the Department of State for which special examinations are held—will find it advantageous to follow many of the courses under the Faculty of Political Science. Some of the subjects upon which applicants for these positions are examined are treated very fully in the curriculum of the school. Thus, extended courses of lectures are given on political geography and history, diplomatic history and international law, government, and administration.

The work in economics and sociology falls under three heads, viz.: the university courses of instruction in the various departments of economic and social science, the work in the statistical laboratory, and the "field work," or practical work in connection with the Charity Organization Society, the Brooklyn Bureau of Charities, the State Charities Aid Association, the University Settlement Society of New York City, and the East Side House. These are fully explained in the detailed circular of the School of Political Science.

ADMISSION AND ATTENDANCE

Admission to the School of Political Science is ordinarily granted to students who have completed the curriculum of some college in good standing at least to the close of the Junior year. Other persons of suitable age and attainments may be admitted, to pursue special or partial courses, with the consent of the Dean and of the instructor. The lectures are also open to the public, on payment of an auditor's fee, and with the consent of the Dean and of the instructor. Auditors do not have, and cannot receive, any university recognition whatever. There are no formal examinations for admission. Applications for admission to the School of Political Science are received at any time by the Secretary of the University, but it is generally advisable that they be presented, if possible, at the beginning of the academic year.

Students enrolled either in the General, in the Union, or in the Jewish Theological Seminary, in the City of New York, or in the Drew Theological Seminary, Plainfield, New Jersey, who may be designated for the privilege by the authorities of those institutions, and accepted by the President of Columbia University, are admitted to the courses offered by the Faculty of Political Science free of charge for tuition.

By the terms of an alliance between Columbia University and Teachers College, at Morningside Heights, duly qualified students of Teachers College are permitted to enter courses offered by the Faculty of Political Science either as candidates for degrees or as special students.

All of these institutions offer reciprocal privileges to students of Columbia University.

An application for admission may be made by filling out and depositing a registration blank at the office of the Secretary of the University, or at such other place as may be designated from time to time, for the purpose of registration.

Every student is required to file a list of his studies for the academic year at the time he registers, or within one week thereafter, at the office of the Bursar. If he subsequently wishes to make any change in his studies he must file written notice of his wish at the Dean's office, and must obtain the assent of the Dean.

Immediate written notice must be given to the Dean of any change of address.

Admission to the School of Political Science does not imply admission to candidacy for a degree. The conditions of candidacy for the several degrees are given below.

ADMISSION TO OTHER COURSES

Any duly matriculated university student is at liberty to combine courses of study and investigation under this Faculty with courses offered by the College

or by the Faculties of Philosophy, Law, Medicine, Pure Science, and Applied Science without any additional fee.

Undergraduate studies of particular value to students in this school are as follows:

	Hours per week.
Rapid Survey of Mediæval and Modern History	3
Ancient and Mediæval History	2
Modern European History	2
English History	2
American History	3
Outlines of Economics (second half-year)	3
Economic History (first half-year)	3

Among the cognate courses given by the Faculty of Philosophy are:

History of philosophy, 2 hours a week; ethics, 2 hours a week; biological anthropology, 2 hours a week; readings in Gaius and Ulpian, 1 hour a week; readings in Anglo-Saxon law; courses in the various modern languages, and others.

FEES

(See page 16)

CANDIDATES FOR A DEGREE

Students are received as candidates for the degree of Master of Arts, Master of Laws, or Doctor of Philosophy.

If the applicant is a candidate for a degree, he must file a certificate, sufficient to furnish evidence of his completion of the Junior year, or if he holds a degree from any institution, he must file diplomas or certificates sufficient to furnish evidence of such degree or degrees. Blanks for this purpose may be secured at the Dean's office. Certificates of graduation or dismissal from institutions of learning in foreign countries are also accepted. The certificates should be accompanied by catalogues or calendars of the colleges or other institutions of advanced grade at which the student has previously studied, which must be marked so as to show clearly his course of study there. This condition may be dispensed with in the case of those colleges and institutions whose bachelor's degree is recognized by the University Council as a basis for the higher degrees.

Students may present themselves for examination for a degree at any time during the year, whenever the requirements as to residence and an essay or dissertation have been complied with.

COURSES OF INSTRUCTION

For the courses offered in 1899–1900, see departmental statements, as follows:

History and Political Philosophy, page 108
Public Law and Comparative Jurisprudence, page 116
Economics and Social Science, page 71

For more detailed accounts of the courses and for the tender of 1900–1901, application should be made for the Circular of Information of the Schools of Philosophy, Political Science, and Pure Science.

Seminars

Outside of the regular instruction in the various subjects by lecture, it is the practice to furnish the students of the school an opportunity for special investigation of historical, legal, economic, and social questions under the direction of the professors. This is done by means of original papers prepared by the students. The papers are read before the professor and the students, and are then criticised and discussed. There will be at least one seminar in each subject. The number of meetings and the topics to be discussed are determined each year. Attendance at the seminar in the major subject is necessary on the part of candidates for the degree of Master of Arts or Doctor of Philosophy.

There are also preliminary seminars in history and political economy, designed primarily for those who are not fully prepared for the more advanced work. A preliminary seminar taken by a candidate for the degree of Bachelor of Arts will count for one hour toward the fifteen hours necessary for a degree.

ORDER OF STUDIES

The following courses are open to seniors in Columbia College :

History 7. Political and Constitutional History of Rome.
" 11. Antecedents of Modern European History.
" 14*a*. Antecedents and Opening of the French Revolution.
" 14*b*. The Age of the Revolution, 1791–1815.
" 16. Constitutional History of England to 1689.
" 30. Transitions in American History.
" 31. Political and Constitutional History of the United States.
" 40. History of Political Theories.
Economics 3. Practical Political Economy.
" 4. Science of Finance.
" 11. Communistic and Socialistic Theories.
" 12. Theories of Social Reform.
Sociology 15. Principles of Sociology.
" 16. Racial Demography.

SCHOOL OF PHILOSOPHY

The following departments are represented in the Faculty:

ENGLISH
ENGLISH LANGUAGE AND LITERATURE
LITERATURE
RHETORIC
GERMANIC LANGUAGES AND LITERATURES
GREEK LANGUAGE AND LITERATURE
INDO-IRANIAN LANGUAGES
LATIN LANGUAGE AND LITERATURE
MUSIC
PHILOSOPHY AND EDUCATION
PSYCHOLOGY
ROMANCE LANGUAGES AND LITERATURES
SEMITIC LANGUAGES AND RABBINICAL LITERATURE

Officers of the Faculty

NICHOLAS MURRAY BUTLER, Ph.D., LL.D., *Dean and Ex-Officio Member of the University Council*

EDWARD DELAVAN PERRY, Ph.D. *Secretary and Elected Delegate to the University Council*

The Faculty

SETH LOW, LL.D., *President*

THOMAS RANDOLPH PRICE, M.A., LL.D., *Professor of the English Language and Literature*

HARRY THURSTON PECK, Ph.D., L.H.D., *Professor of the Latin Language and Literature*

NICHOLAS MURRAY BUTLER, Ph.D., LL.D., *Professor of Philosophy and Education*

WILLIAM HENRY CARPENTER, Ph.D., *Professor of Germanic Philology*

JAMES MCKEEN CATTELL, Ph.D., *Professor of Psychology*

EDWARD DELAVAN PERRY, Ph.D., *Jay Professor of the Greek Language and Literature*

ABRAHAM VALENTINE WILLIAMS JACKSON, Ph.D., L.H.D., *Professor of the Indo-Iranian Languages*

ADOLPHE COHN, LL.B., A.M., *Professor of the Romance Languages and Literatures*

GEORGE EDWARD WOODBERRY, A.B., *Professor of Literature*

BRANDER MATTHEWS, LL.B., D.C.L., *Professor of Literature*

RICHARD JAMES HORATIO GOTTHEIL, Ph.D., *Professor of Rabbinical Literature and the Semitic Languages*

HENRY ALFRED TODD, Ph.D., *Professor of Romance Philology*

GEORGE RICE CARPENTER, A.B., *Professor of Rhetoric and English Composition*

JAMES RIGNALL WHEELER, Ph.D., *Professor of Greek*

JAMES HERVEY HYSLOP, Ph.D., *Professor of Logic and Ethics*

JAMES CHIDESTER EGBERT, Jr., Ph.D., *Adjunct Professor of Latin*

CARLO LEONARDO SPERANZA, A.M., B. ès L., *Adjunct Professor of the Romance Languages and Literatures*

CALVIN THOMAS, A.M., *Gebhard Professor of the Germanic Languages and Literatures*

EDWARD ALEXANDER MACDOWELL, Mus. D., *Professor of Music*

FRANZ BOAS, Ph.D., *Professor of Anthropology*

JAMES EARL RUSSELL, Ph.D., *Professor of the History of Education*

FRANK MORTON MCMURRY, Ph.D., *Professor of the Theory and Practice of Teaching*

NOTE.—For details as to other officers of instruction, see departmental statements.

GENERAL STATEMENT

The Faculty of Philosophy has charge of the university courses of instruction and research in philosophy, philology, and letters. Any duly matriculated university student is at liberty to combine courses of study and investigation under this faculty with courses offered by the Faculties of Law, Medicine, Political Science, Pure Science, and Applied Science.

Students are received either as candidates for the degrees of Master of Arts and Doctor of Philosophy, or to pursue special or partial courses. Some courses of lectures are open to the public, men and women alike, on payment of an auditor's fee. No auditor will be admitted to any course without the consent of the instructor, previously obtained. Auditors do not have, and cannot receive, any university recognition whatever.

Students enrolled either in the General, the Union, or the Jewish Theological Seminary, in the City of New York, who may be designated for the privilege by the authorities of those institutions, and accepted by the President of Columbia University, are admitted to the courses offered by the Faculty of Philosophy free of any charge for tuition.

Students enrolled in the Art Schools of the Metropolitan Museum of Art, who may be designated for the privilege by the authorities of those schools, and accepted by the President of Columbia University, are permitted to attend the courses of lectures on archæology and æsthetics free of any charge of tuition.

Duly qualified students of Teachers College are permitted to enter the courses offered by the Faculty of Philosophy, either as candidates for degrees or as special students.

All of these institutions offer reciprocal privileges to students of Columbia University.

ADMISSION AND ATTENDANCE

Candidates for the degrees of Master of Arts and Doctor of Philosophy must hold a bachelors degree from some college in good standing, or present satisfactory evidence of having completed an equivalent course of study at a foreign

institution, and must remain in residence for not less than one and two years, respectively. They are required to pursue courses of study and research in one major and two minor subjects, but are not held to any fixed number of hours of attendance per week. University residence of not less than three years is usually necessary in order to obtain the degree of Doctor of Philosophy.

Candidates for the degree of Doctor of Philosophy who have been in residence at other universities are given credit for such residence.

Students who are not candidates for a degree are admitted to any courses which they are found competent to undertake.

There are no examinations for admission, either as candidates for a degree or as special students. Students are admitted at any time during the year, and may present themselves for examination for a degree whenever the requirements as to residence and an essay or dissertation have been complied with.

For fees see page 16

COURSES OF STUDY AND RESEARCH

For the courses offered for 1899–1900, see departmental statements as follows :

Philosophy and Education, page 150
Psychology and Anthropology, page 150
Greek (including Archæology and Epigraphy), page 105
Latin (including Epigraphy and Roman Archæology), page 114
English, page 95
Literature, page 96
Music, page 136
Germanic Languages, page 101
Romance Languages :
- French, page 168
- Italian, page 172
- Spanish, page 172
- Provençal, page 172
- Portuguese and Rumanian, page 173
- Romance Philology, page 173

Oriental Languages :
- Semitic Languages, page 140
- Indo-Iranian Languages, page 142

Study of Language, page 144

Courses at the Union Theological Seminary

New Testament Greek, page 107

For the courses to be offered for 1900–1901, application should be made for the announcement of the schools of Philosophy, Political Science, and Pure Science, and the various departmental circulars which may be had after April 15.

SCHOOL OF PURE SCIENCE

The following departments are represented in the Faculty:

ANATOMY	MATHEMATICS
ASTRONOMY	MECHANICS
BACTERIOLOGY	MINERALOGY
BOTANY	PHYSICS
CHEMISTRY	PHYSIOLOGY
GEOLOGY	ZOÖLOGY

Officers of the Faculty

ROBERT S. WOODWARD, C.E., Ph.D. *Dean and Ex-Officio Member of the University Council*

WILLIAM HALLOCK, A.B., Ph.D. *Secretary*

JAMES F. KEMP, A.B., E.M. *Elected Delegate to the University Council*

The Faculty

SETH LOW, LL.D., *President*

J. HOWARD VAN AMRINGE, Ph.D., L.H.D., LL.D., *Professor of Mathematics*

OGDEN N. ROOD, A.M., *Professor of Physics*

CHARLES F. CHANDLER, Ph.D., M.D., LL.D., *Professor of Chemistry*

JOHN K. REES, A.M., E.M., Ph.D., *Professor of Astronomy and Director of the Observatory*

JOHN G. CURTIS, A.M., M.D., *Professor of Physiology*

ALFRED J. MOSES, E.M., Ph.D., *Professor of Mineralogy*

GEORGE S. HUNTINGTON, M.D., *Professor of Anatomy*

HENRY FAIRFIELD OSBORN, Sc.D., *Da Costa Professor of Zoölogy*

EDMUND B. WILSON, Ph.D., *Professor of Zoölogy*

JAMES F. KEMP, A.B., E.M., *Professor of Geology*

WILLIAM HALLOCK, A.B., Ph.D., *Adjunct Professor of Physics*

MICHAEL I. PUPIN, Ph.D., *Adjunct Professor of Mechanics*

T. MITCHELL PRUDDEN, M.D., *Professor of Bacteriology*

ROBERT S. WOODWARD, C.E., Ph.D., *Professor of Mechanics and Mathematical Physics*

THOMAS S. FISKE, A.M., Ph.D., *Professor of Mathematics*

HAROLD JACOBY, Ph.D., *Adjunct Professor of Astronomy*

FRANK N. COLE, Ph.D., *Professor of Mathematics*

FREDERIC S. LEE, Ph.D., *Adjunct Professor and Demonstrator of Physiology*

LUCIEN M. UNDERWOOD, Ph.D., *Professor of Botany*

BASHFORD DEAN, Ph.D., *Adjunct Professor of Zoölogy*

NOTE.—For details as to other officers of instruction, see departmental statements.

GENERAL STATEMENT

The Faculty of Pure Science has charge of the university courses of instruction and research in all branches of pure science, and especially the supervision of candidates for the degrees of Master of Arts and Doctor of Philosophy in pure science. Students under other university faculties are also at liberty to pursue courses of study and investigation under this faculty.

Candidates for the higher degrees taking major subjects in pure science will be regarded as under the special jurisdiction of this faculty, and must apply to the Dean for registration before entering upon their work. The same registration requirement must also be complied with by students who desire to pursue special subjects under this faculty.

In the faculty are represented all the departments of the University which give instruction in pure science.

Graduate students, candidates for the degree of Master of Arts or Doctor of Philosophy, are subject:

1st. To the general regulations of the University Council. (See p. 183.)

2d. To the special regulations of this faculty.

Special Regulations of the Faculty of Pure Science

The degree of Doctor of Philosophy is awarded on the basis of a thorough training in the methods of advanced work and investigation in some branch of science. The following statements are offered for the guidance of students. In the case of students of especial ability or exceptional previous training, the faculty may modify its usual regulations.

The student is expected to gain a sound general knowledge of the two minor subjects of his choice. In the major subject a much more thorough and special knowledge is required, particular importance being attached to training in research. In order to avoid undue specialization, no two subjects can be chosen from the same department without the consent of the faculty.

One year's study in residence in the University is required for the degree of Master of Arts, and three years' study for the degree of Doctor of Philosophy, at least one year of which shall be in residence. Candidates for either of these degrees are expected to devote at least one-half their time throughout their course of study to the major subject. In the case of laboratory courses this implies two days a week, or its equivalent, as determined by each department. Each minor subject is intended to occupy approximately one-fourth of the time during one year for the degree of Master of Arts, and during one or two years, according to the nature of the subject and the previous training of the candidate, for the degree of Doctor of Philosophy. It is expected that the third year of study, and in certain cases both the second and the third years, will be wholly devoted to the major subject and to investigation for the dissertation.

The approval of the subject of the essay required for the degree of Master of Arts, or the subject of the dissertation required for the degree of Doctor of Philosophy, as well as the essay or dissertation itself, rests with the instructor in charge of the candidate's major subject. It is desirable that these studies should be related, and, when practicable, that they should be treated respectively as preliminary and completed investigations. Great importance is

attached to the character of the final dissertation. While it must depend for acceptance chiefly on the subject-matter, it should show good literary workmanship, especially by directness and clearness of statement. It should demonstrate the author's capacity to do original scientific work and to render an intelligible account thereof. It should evince a familiarity with the literature of the subject and with the latest methods of research applicable to it. The treatment should be as concise as the nature of the work permits. Every dissertation should be preceded by a clear introductory statement setting forth the nature and the scope of the research, and be followed by a résumé of the results and the conclusions obtained. It should also be accompanied by a table of contents and by a list of the authorities consulted in its preparation.

Special Students

Students who are not candidates for a degree may be permitted to pursue such courses from among those offered by this faculty as they may be found qualified to enter upon. Each applicant must demonstrate his preparation for, and his ability to pursue, the course or courses selected, and of his qualifications the heads of the departments in which he proposes to study shall be the judges. In general these special courses are open only to advanced students.

COURSES OF STUDY

For the courses offered for 1899–1900, see departmental statements as follows:

Anatomy, page 49
Astronomy, page 56
Bacteriology, page 148
Botany, page 58
Chemistry, page 62
Geology, page 99
Mathematics, page 118
Mechanics, page 121
Mineralogy, page 127
Physics, page 159
Physiology, page 164
Zoölogy, page 176

For more detailed accounts of the courses and for the tender of 1900–1901, application should be made for the announcement of the Schools of Philosophy, Political Science, and Pure Science.

REGISTER OF STUDENTS

Under the Faculties of
Political Science, Philosophy, and Pure Science

Abelson, Paul.....(Mhtn) New York City
College of the City of New York, A.B., 1889.
European History, *American History*, *Political Economy and Finance*, *Political History*.

* Ackerman, William Alfred.....Ackermanville, Pa.
Lafayette College, A.B., 1894; A.M., 1897.
Education, *Geography*.

Andrews, Walter Scott.....(Mhtn) New York City
Harvard University, A.B., 1877; A.M., 1898; Columbia University, LL.B., 1882.
Psychology and Anthropology.

Appleton, Floyd.....Plainfield, N. J.
Columbia University, A.B., 1893.
Sociology and Statistics, *Philosophy*.

Arnold, Walter Whipple.....Rochester, N. Y.
University of Rochester, A.B., 1898.
Latin, *Greek*, *Literature*.

Babbitt, Dean Richmond.....(Bklyn) New York City
Cincinnati Law School, LL.B., 1879.
Harvard University, A.B., 1886.
Cambridge Episcopal Theological School, B.D., 1886.
University of Wisconsin, LL.D., 1889.
Sociology and Statistics, *Political Economy and Finance*, *European History*.

Ball, Allan Perley.....Passaic, N. J.
Amherst College, A.B., 1892; A.M., 1895.
Latin, *Greek*, *and Psychology*.

Bauer, George Leander.....Minneapolis, Minn.
University of Minnesota, B.S., 1894.
University of Iowa, M.S., 1898.
Astronomy, *Mathematics*, *Mechanics*.

Bausman, Clarence Garrecht.....Lancaster, Pa.
Franklin & Marshall College, A.B., 1894.
Sociology and Statistics.

Bavetta, Vincenzo.....St. Marguerite, Sicily
Music.

* Also a candidate for the Higher Diploma, Teachers College.

* Beardsley, Lewis Aurelius.....Ithaca, N. Y.
Cornell University, A.B., 1888.
Education, Psychology, Geography.

* Beckhardt, Moses.....(Mhtn) New York City
College of the City of New York, B.S., 1894.
Education and Hebrew.

Bensley, Benjamin Arthur.....(Mhtn) New York City
University of Toronto, A.B., 1896.
Geology, Zoölogy.

Bice, Hiram Horsburgh.....(Mhtn) New York City
Johns Hopkins University, A.B., 1889.
Hamilton College, A.M., 1892.
Education.

Bigelow, Lewis Sherrill.....(Mhtn) New York City
Yale University, A.B., 1887; LL.B., 1889.
Literature, Philosophy.

Binder, Rudolph Michael.....(Mhtn) New York City
Harvard University, A.B., 1893.
University of Chicago, B.D., 1897.
Philosophy, Psychology, and Sociology.

Book, Dwight Dana.....(Bklyn) New York City
Columbia University, C.E., 1890; E.E., 1892.
Chemistry.

Bordwell, Walter Percy.....Alameda, Cal.
University of California, B.L., 1898.
International Law, Constitutional Law, American History, Administrative Law, Philosophy.

Boroschek, Leopold.....(Mhtn) New York City
College of the City of New York, B.S., 1897.
Chemistry, Physics, Metallurgy, Electrical Engineering.

Bosse, Karl Kurt.....(Mhtn) New York City
Cornell University, B.S., 1897.
Psychology, Anthropology, Zoölogy, and Education.

Bouton, Archibald Lewis.....(Mhtn) New York City
Amherst College, A.B., 1896.
European History, Political Economy and Finance.

Bowman, George Shelden.....Salem, Va.
Roanoke College, Va., A.M., 1894.
Administrative Law.

Bradley, William Aspenwall.....(Mhtn) New York City
Columbia University, A.B., 1899.
Literature and Philosophy.

Braun, Wilhelm Alfred.....(Mhtn) New York City
Toronto University, A.B., 1895.
German and English.

Brettauer, Joseph.....(Mhtn) New York City
University of Gratz, Austria, M.D., 1887.
Anatomy.

* Also a candidate for the Higher Diploma, Teachers College.

Brickner, Samuel Max.....(Mhtn) New York City
University of Rochester, A.B., 1888; A.M., 1891.
Columbia University, M.D., 1891.
Anatomy.

Briggs, Harry Stewart.....(Mhtn) New York City
Music.

Briggs, Howard Appleton.....Lansingburg, N. Y.
Williams College, A.B., 1897.
Sociology, Church History, Philosophy.

Brigida, Joseph.....(Mhtn) New York City
University of Naples, LL.D., 1891.
Latin and American History.

Britt, Albert.....Utah, Ill.
Knox College, A.B., 1898.
Political Economy and Finance, American History, Sociology and Statistics, European History, Constitutional Law.

Brooks, John Lee.....Madison, N. J.
South Western University, Texas, A.M., 1893.
Greek, Philosophy and Education.

Brummer, Sidney David.....(Mhtn) New York City
College of the City New York, A.B., 1889.
American History.

Brydges, Ralph Lionel.....Islip, N. Y.
Columbia University, A.M., 1897.
Philosophy.

Budington, Robert Allyn.....Leyden, Mass.
Williams College, A.B., 1896; A.M., 1899.
Zoölogy, Botany, Physiology.

Bullowa, Ralph James M.....(Mhtn) New York City
European History.

Burd, Charles Gillette.....Patchogue, L. I.
Amherst College, A.B., 1898.
Sociology and Statistics, Church History.

Burke, Edmund.....(Mhtn) New York City
College of the City of New York, A.B., 1890.
Latin and Greek.

Capen, Edward Warren.....Boston, Mass.
Amherst College, A.B., 1894.
Sociology and Statistics, Political Economy and Finance, Church History.

Chase, John Hildreth.....Bellows Falls, Vt.
Amherst College, B.S., 1896.
Sociology and Statistics, Education, Church History.

Chickering, Edward Conner.....(Q) New York City
Yale University, A.B., 1896.
Harvard University, A.M., 1897.
Latin and Greek.

Chollet, Charles.....(Mhtn) New York City
Harvard University, A.B., 1888.
French and Latin.

Clark, Walter Ernest.....Delaware, Ohio
Ohio Wesleyan University, A.B., 1896; A.M., 1898.
Political Economy and Finance, Sociology and Statistics, European History.

Clark, William Francis.....Meriden, Conn.
Yale University, A.B., 1897.
Literature, Greek, and Sociology.

*Clarke, Adelbert Thomas Selden.....Kelly, New Mexico
Union University, C.E., 1876; A.B., 1877; A.M., 1879.
Education.

Cocks, Orrin Giddings.....(Mhtn) New York City
Union University, A.B., 1898.
Sociology and Statistics, Church History.

Coffin, Henry Sloane.....(Mhtn) New York City
Yale University, A.B., 1897.
Sociology and Statistics, Church History.

Compton, Alfred Donaldson.....(Mhtn) New York City
College of the City of New York, B.S., 1897.
Literature and Romance Languages and Literatures.

Conant, Fred. Rufus.....Worcester, Mass.
Amherst College, A.B., 1898.
Sociology and Statistics, European History, Philosophy.

Cook, Walter Wheeler.....(Mhtn) New York City
Columbia University, A.B., 1894; A.M., 1899.
International Law, Administrative Law, Political Economy and Finance.

Dammes, Thomas Wesley.....(Mhtn) New York City
Brown University, A.B., 1898.
Sociology and Statistics, Political Economy and Finance, Church History.

Davidson, Israel.....(Mhtn) New York City
College of the City of New York, A.B., 1895.
Semitic Languages and English.

Davis, Bergen.....White House Station, N. J.
Rutgers College, B.S., 1896.
Physics, Mechanics, Chemistry.

‖Deahl, Jasper Newton.....Grafton, W. Va.
University of Nashville, A.B., 1889.
Harvard University, A.B., 1893.
Columbia University, A.M., 1899.
Teachers College, Higher Diploma, 1899.
Education, English, Sociology.

Dean, Austin Phelps.....Colebrook, Conn.
Harvard University, A.B., 1899.
Philosophy, Sociology, Statistics, and Church History.

Denbigh, John Halliday.....(Br) New York City
Oxford University, England, A.M., 1891.
Mechanics.

* Also a candidate for the Higher Diploma, Teachers College.
‖ Also a graduate student, Teachers College.

Denman, George Edward.....Auburn, N. Y.
Williams College, A.B., 1898.
Political Economy and Finance, *American History*, *Constitutional Law*.

Dennis, Alfred Lewis Pinneo.....(Mhtn) New York City
Princeton University, A.B., 1896.
International Law, *Philosophy*.

Dickinson, Thomas Herbert.....Columbus, Ohio
Ohio State University, Ph.B., 1899.
Literature, *Education*, *English*, *and Rhetoric*.

Dionne, Gustave Adolphe Leo.....(Mhtn) New York City
Wooster University, Ohio, A.B., 1893.
French and German.

Duggan, Stephen Pierce.....(Mhtn) New York City
College of the City of New York, M.S., 1897.
Columbia University, A.M., 1899.
Constitutional Law, *International Law*, *European History*, *Philosophy*.

Eaton, Elon Howard.....Canandaigua, N. Y.
University of Rochester, A.B., 1890; A.M., 1893.
Zoölogy, *Botany*, *Psychology*.

Edwards, George Nelson.....Colchester, Conn.
Wesleyan University, A.B., 1893.
Harvard University, A.B., 1894.
Sociology and Statistics, *Church History*.

Elkin, Heiman Jacob.....(Mhtn) New York City
Cincinnati University, A.B., 1886.
Philosophy, *English*, *German*, *and French*.

Ellard, Charles Henry.....Great Neck, N. Y.
Columbia University, A.B., 1897.
Chemistry, *Physics*.

Fiedler, Edward Charles, Jr.....(Mhtn) New York City
International Law, *American History*.

Finlay, George Irving.....(Bklyn) New York City
Harvard University, A.B., 1898.
Geology, *Palæontology*, *Mineralogy*.

Fleming, Walter Storer.....Scarsdale, N. Y.
Music.

Fowler, Augustus McDonald, Jr.....(Mhtn) New York City
Psychology.

Fowles, George Milton.....(Mhtn) New York City
Mt. Union College, Ohio, A.B., 1895.
Boston University, S.T.B., 1898.
New York University, A.M., 1899.
Sociology and Statistics, *Political Economy and Finance*.

Fox, Haughton Kost.....Adrian, Mich.
Adrian College, A.B., 1895; A.M., 1899.
Sociology and Statistics, *Philosophy*.

Francis, Nathaniel Leavitt.....(Mhtn) New York City
Harvard University, A.B., 1892.
International Law.

Frazier, Moses Leonard.....(Mhtn) New York City
Mt. Union College, Ohio, Ph.B., 1896; Ph.M., 1899.
New York Law School, LL.B., 1899.
Constitutional Law, International Law, Sociology and Statistics.

Fry, William Henry.....(Bklyn) New York City
Columbia University, A.B., 1897; A.M., 1898.
American History, European History, International Law.

Furst, Clyde Bowman.....Hagerstown, Md.
Dickinson College, Ph.B., 1893; A.M., 1895.
English, Literature and Education.

Galloway, Lee.....Durand, Wis.
University of Minnesota, B.S., 1896.
American History, European History, Political Economy and Finance, Sociology and Statistics.

Gardner, Lester Durand.....Detroit, Mich.
Massachusetts Institute of Technology, B.S., 1898.
Administrative Law, Political History, Constitutional Law.

* Garritt, Albert Warner.....(Mhtn) New York City
College of the City of New York, B.S., 1890.
Education.

Gates, Carl Martel.....Dorset, Vt.
Amherst College, A.B., 1897.
Philosophy.

Gates, William Bishop.....(Mhtn) New York City
Amherst College, A.B., 1897.
Philosophy.

George, John Jacob.....Cherryville, N. C.
Lenoir College, N. C., A.B., 1893; A.M., 1896.
Education, Philosophy, Mathematics, Psychology.

† Gerken, Walter Diedrich.....Jersey City, N. J.
Cornell University, B.S., 1899.
Education, English, History.

Gerrard, Ernest Allen.....Columbus, Neb.
University of Nebraska, A.B., 1894.
Philosophy, Literature, Anthropology.

Gilchrist, Neil Alexander.....Ishpeming, Mich.
University of Michigan, A.B., 1896.
Sociology and Statistics, Church History, Hebrew.

Goodman, Jules Eckert.....Portland, Ore.
Harvard University, A.B., 1899.
Literature, Philosophy.

Goodrich, Arthur Frederick.....New Britain, Conn.
Wesleyan University, Ph.B., 1899.
English, Literature, Political History.

* Also a candidate for the Higher Diploma, Teachers College.
† Also a candidate for the Secondary Diploma, Teachers College.

Gordon, George Andrew.....Amesbury, Mass.
Brown University, A.B., 1895; A.M., 1896.
Sociology and Statistics.

Gotthelf, August Henry.....Hastings, N. Y.
Columbia University, B.S., 1897; A.M., 1898.
Chemistry, Physics, Mineralogy.

Gottschall, Louis.....(Mhtn) New York City
Columbia University, B.S., 1898.
Mathematics, Astronomy, Mechanics.

Graham, Walter Baber.....Calderhead, Kan.
University of Kansas, A.B., 1899.
Constitutional Law, International Law, American History, Political History, Political Economy and Finance.

Grannis, Appleton.....Caldwell, N. J.
Columbia University, A.B., 1893; A.M., 1898.
Philosophy and Education.

Graves, Eugene Silas.....Cleveland, Ohio
Case School of Applied Science, B.S., 1899.
Chemistry, Metallurgy, German.

Gray, Charles Oliver.....Smithtown Branch, N. Y.
Hamilton College, A.B., 1890; A.M., 1894.
Sociology and Statistics.

Gray, Henry David.....Auburn, N. Y.
Colgate University, Ph.B., 1897.
Columbia University, A.M., 1898.
Literature and Philosophy.

Gray, Louis Herbert.....Newark, N. J.
Princeton College, A.B., 1896.
Columbia University, A.M., 1898.
Indo-Iranian and Semitic Languages.

Greenslet, Ferris.....Glens Falls, N. Y.
Wesleyan University, A.B., 1897; A.M., 1898.
English, Literature, and Philosophy.

Griffiths, David.....Aberdeen, So. Dak.
Agricultural College, S.D., B.S., 1892; M.S., 1893.
Botany, Zoölogy.

Gundersen, Carl.....(Mhtn) New York City
Leland Stanford Jr. University, A.B., 1897.
Columbia University, A.M., 1899.
Mathematics, Mechanics, Astronomy.

Hager, Charles Stephen.....So. Deerfield, Mass.
Amherst College, A.B., 1898.
Sociology and Statistics.

Halligan, Thomas Cooper.....(Mhtn) New York City
College of the City of New York, B.S., 1890.
New York University, LL.B., 1895.
Philosophy.

Hamilton, George Livingstone.....Boston, Mass.
Harvard University, A.B., 1895; A.M., 1897.
Romance Languages and Literatures and Latin.

Harper, Roland McMillan Southbridge, Mass.
University of Georgia, B.E., 1897.
Botany, Geology, Mathematics, Zoölogy.

Harris, John Billups.....Columbus, Miss.
European History, American History, Political Economy and Finance, Constitutional Law, Philosophy.

Harris, Thomas Le Grand.....Sheridan, Ind.
Indiana University, A.B., 1892; A.M., 1895.
Harvard University, A.M., 1899.
International Law, Constitutional Law, European History.

Harrison, John Smith.....Orange, N. J.
Columbia University, A.B., 1899.
English and Education.

Harwood, Edward Charles.....Ontario, Cal.
Leland Stanford Jr. University, A.B., 1895; A.M., 1896.
Latin and Greek.

Hashi, Hajime.....Tokyo, Japan
Tokyo Shogyo College, Japan, 1895.
Political Economy and Finance, Political History.

Hawkins, Delmer Edward.....Syracuse, N. Y.
Syracuse University, A.B., 1894; LL.B., 1898.
Political Economy and Finance, Sociology and Statistics, Political History, International Law, Comparative Jurisprudence.

Hayes, Samuel Perkins.....Rochester, N. Y.
Amherst College, A.B., 1896.
Sociology and Statistics.

Hazen, Tracy Elliot.....(Mhtn) New York City
University of Vermont, A.B., 1897.
Columbia University, A.M., 1899.
Botany, Zoölogy.

Heck, William Harry.....Raleigh, N. C.
Wake Forest College, A.B., 1897; A.M., 1899.
English and Education.

Heggie, Rodney Mulford.....(Bklyn) New York City
New York University, A.B., 1899.
Latin, Greek, and Education.

Hellman, George Sidney.....(Mhtn) New York City
Columbia University, A.B., 1899.
Literature and Philosophy.

Henderson, Arthur Merritt.....Nyack, N. Y.
European History, American History, Political Economy and Finance.

Hesselgrave, Charles Everett.....Madison, N. J.
Middlebury College, Vt., A.B., 1893.
New York University, A.M., 1899.
Greek.

Hill, Benjamin Felix.....Austin, Texas
University of Texas, B.S., 1896; M.S., 1897.
Columbia University, A.M., 1898.
Geology, Mineralogy.

Hill, Bert Hodge.....Bristol, Vt.
University of Vermont, A.B., 1895.
Greek and Latin.

Hill, Walter Eastman.....Derry, N. H.
Music.

Hino, Masumi.....Yamagata, Japan
University of Doshisha, Japan, B.D., 1897.
Philosophy, Hebrew, and Church History.

Hoagland, Warren Lanning, Jr.....Jersey City, N. J.
Wesleyan University, A.B., 1898.
Sociology and Statistics, Political Economy and Finance, Constitutional Law.

Hochheimer, Emanuel.....(Mhtn) New York City
College of the City of New York, A.B., 1872; B.S., 1880; A.M., 1880.
New York University, M.D., 1877.
Physics.

Hodges, Archibald Livingston.....(Mhtn) New York City
Harvard University, A.B., 1883; A.M., 1897.
Latin.

Holden, Sidney Bowen.....(Mhtn) New York City
Music.

Holder, Oscar Howe.....(Mhtn) New York City
Harvard University, A.B., 1888; M.D., 1892.
Anatomy, Chemistry, Zoölogy.

Holt, Edwin Bissell.....Winchester, Mass.
Harvard University, A.B., 1896.
Psychology, Physiology, and Anthropology.

Houston, Henry Eugene.....Paterson, N. J.
Columbia University, A.B., 1895.
Psychology.

Howland, Murray Shipley.....Wilmington, Del.
Yale University, A.B., 1897.
Sociology and Statistics.

* Hubbell, George Allen.....Yellow Springs, Ohio
Antioch College, B.S., 1890; A.M., 1891.
Education and Anthropology.

Hunter, Charles Scott.....Madison, N. J.
Cornell College, Ia., B.S., 1894.
Drew Theological Seminary, B.D., 1899.
Sociology and Statistics, Political Economy and Finance.

Huntsman, Owen Benjamin.....Stroudsburg, Pa.
Harvard University, A.B., 1897; A.M., 1898.
Philosophy and Psychology.

* Also a candidate for the Higher Diploma, Teachers College.

Huxley, Henry Minor.....Newton, Mass.
Harvard University, A.B., 1899.
Anthropology.

Hyde, Henry St. John.....(Mhtn) New York City
Columbia University, Ph.B., 1896; A.M., 1898.
Chemistry, Physics.

Iglehart, Edwin Taylor.....Washingtonville, N. Y.
Columbia University, A.B., 1898.
American History, European History, Philosophy.

Ingraham, Edgar Shugert.....(Mhtn) New York City
Colgate University, A.B., 1897.
Romance Languages and Literatures and German.

Irving, Robert Edward Lee.....Centre Point, Texas
Trinity University, Texas, A.B., 1892.
Sociology and Statistics, Political Economy and Finance, Church History.

Israeli, Phineas.....(Mhtn) New York City
College of the City of New York, A.B., 1899.
Philosophy, Education, Semitic Languages, and Rhetoric.

* Jackson, Joseph Perry.....Boston, Mass.
Oskaloosa College, A.B., 1877; A.M., 1880; Iowa State University, LL.B., 1879.
Education, Psychology, Geography.

Jenkins, Perry Wilson.....Indianola, Iowa
Miami University, A.B., 1890; A.M., 1893.
Astronomy, Geodesy, Mathematics.

Joffé, Joshua Abraham.....(Mhtn) New York City
University of Berlin, eight semesters.
Philosophy and Education.

Johnson, Alvin Saunders.....Dakota City, Neb.
University of Nebraska, A.B., 1897; A.M., 1898.
Political Economy and Finance, Sociology and Statistics, American History.

Jonasch, Otto Siegfried.....(Mhtn) New York City
Music.

Jones, Arthur Clarence.....Monroe, N. Y.
Political Economy and Finance, American History, Constitutional Law.

Jones, Thomas Jesse.....Greenfield, Ohio
Marietta College, A.B., 1897; Columbia University, A.M., 1899.
Sociology and Statistics, Political Economy and Finance, European History.

* Jones, Ralph W.....Indianapolis, Ind.
Indiana University, A.B., 1888.
Education, Geography.

Kahnweiler, William Stanley.....(Mhtn) New York City
Anthropology and Sociology.

Kauffman, William Albert.....Port Royal, Pa.
Bucknell University, A.B., 1895; A.M., 1898.
Physics, Mechanics, Mathematics.

* Also a candidate for the Higher Diploma, Teachers College.

Keiley, Jarvis William.....(Mhtn) New York City
Harvard University, A.B., 1890; A.M., 1899.
English and Rhetoric.

Kellicott, William Erskine.....Columbus, Ohio
Ohio State University, Ph.B., 1898.
Zoölogy, Physiology, Botany.

King, Albert Edward.....Roxbury, Mass.
Harvard University, A.B., 1897; A.M., 1898.
Education.

Kirkes, Leonidas Cicero.....Corsicana, Texas
Cumberland University, A.B., 1892.
Sociology and Statistics, Political Economy and Finance, Church History.

Kirkwood, Joseph Edward.....Farmington, Oregon
Pacific University, A.B., 1898.
Botany, Geology, Chemistry, Zoölogy.

Kluttz, Warren Lawson.....Salisbury, N. C.
University of North Carolina, A.B., 1899.
Political Economy and Finance, Sociology and Statistics.

* Knox, Thomas Harry.....(Mhtn) New York City
College of the City of New York, B.S., 1888.
Education.

Kroeber, Alfred Louis.....(Mhtn) New York City
Columbia University, A.B., 1896; A.M., 1897.
Anthropology and Literature.

Kunz, William Eberhart.....Wood River, Neb.
Hastings College, Neb., A.B., 1897.
Sociology and Statistics, Political Economy and Finance, Church History.

Lambord, Benjamin Fulton.....(Mhtn) New York City
Music.

Langer, Samuel.....Hoboken, N. J.
College of the City of New York, B.S., 1895; Columbia University, A.M., 1899.
Education.

Larendon, Robert Edgeworth.....(Mhtn) New York City
Political History, Political Economy and Finance, American History, European History.

Lawrence, Amos Edward.....Boston, Mass.
Physics.

Lawrence, George Alfred.....(Mhtn) New York City
Leland Stanford Jr. University, A.B., 1892.
Columbia University, M.D., 1895; A.M., 1896.
Zoölogy, Bacteriology.

Lawson, Franklin Dana.....(Mhtn) New York City
Columbia University, M.D., 1890.
Music.

Lazard, Max Philippe.....Paris, France
University of Paris, B.L., 1894.
Political Economy and Finance, Sociology and Statistics, Political History.

* Also a candidate for the Higher Diploma, Teachers College.

Le Compte, Irville Charles.....(Mhtn) New York City
Wesleyan University, A.B., 1897.
Rhetoric.

Lee, Ivy Ledbetter.....(Mhtn) New York City
Princeton University, A.B., 1898.
Literature.

Leo, Richard Leopold.....(Mhtn) New York City
Columbia University, Ph.B., 1895.
Music.

Lesser, Joseph Mapes.....(Mhtn) New York City
Columbia University, LL.B., 1899.
Constitutional, International, and Administrative Law, Political Economy.

Levine, David.....(Mhtn) New York City
College of the City of New York, A.B., 1896.
Semitic Languages.

Liknaitz, David.....(Bklyn) New York City
University of Pennsylvania, B.S., 1898.
Semitic Languages and Philosophy.

Lipsky, Abram.....Rochester, N. Y.
University of Rochester, Ph.B., 1895.
Sociology and Statistics, Political Economy and Finance, Philosophy.

Loew, Frederick William.....(Mhtn) New York City
European History, American History, Political Economy and Finance.

Long, Maxwell Warburn.....(Q) New York City
Political History, Political Economy and Finance, American History.

Longden, Aladine Cummings.....Westfield, Mass.
De Pauw University, A.B., 1881; A.M., 1884.
Physics, Chemistry, Education.

Loos, Hermann Andreas.....(Mhtn) New York City
College of the City of New York, B.S., 1895.
Columbia University, A.M., 1897.
Chemistry, Metallurgy.

* Luckey, George W. A.....Lincoln, Neb.
Leland Stanford Jr. University, A.B., 1894.
Education, Psychology, German, French.

* Ludwig, Henry, Jr.....(Mhtn) New York City
College of the City of New York, B.S., 1889; New York University, A.M., 1893.
Education.

Lunn, George Richard.....Omaha, Neb.
University of Omaha, A.B., 1897.
Sociology and Statistics, Political Economy and Finance, Church History.

McAlpin, Edwin Augustus, Jr.....Sing Sing, N. Y.
Princeton University, A.B., 1898.
Sociology and Statistics, Political Economy and Finance, Church History.

McComas, Henry Clay, Jr.....Baltimore, Md.
Johns Hopkins University, A.B., 1897; Columbia University, A.M., 1898.
Sociology and Statistics.

* Also a candidate for the Higher Diploma, Teachers College.

McNulty, John J.....(Mhtn) New York City
New York University, Ph.D., 1893.
Columbia University, A.M., 1895.
Zoölogy.

Mac Farlane, William Godsoe.....St. John, N. B.
Acadia University, Nova Scotia, A.B., 1893; A.M., 1898.
Sociology and Statistics, Political Economy and Finance, International Law, German.

Maclay, Robert.....(Mhtn) New York City
Political History, European History, Constitutional Law, Political Economy and Finance.

Madelung, Walter Otto.....Strasburg, Germany
Certificate, Strasburg Gymnasium, Germany, 1898.
Physics, Chemistry, Geology, Mineralogy.

Magie, John Ernest.....(Mhtn) New York City
College of the City of New York, A.B., 1898.
Columbia University, A.M., 1899.
Philosophy, English, and Education.

Manning, Edward Betts.....(Mhtn) New York City
Music.

Markson, Harry M.....(Mhtn) New York City
Cornell University, Ph.B., 1898.
Education, Literature, and American History.

Marshall, Benjamin Pinkham.....Boston, Mass.
Dartmouth College, A.B., 1897.
American History, Sociology and Statistics, Church History.

Martin, Hugh Whitfield.....(Mhtn) New York City
Music.

Matsuyama, Chinjiro.....Osaka, Japan
Tokyo Semonggaho, Japan, A.B., 1894.
Political Economy and Finance, International Law, Sociology and Statistics.

Matthew, George.....St. John, Canada
Columbia University, A.B., 1899.
German, and Indo-Iranian Languages.

Maxwell, Guy Everett.....St. Paul, Minn.
Hamline University, A.B., 1893.
Columbia University, A.M., 1899.
Teachers College, Higher Diploma, 1899.
Education, Psychology, Philosophy.

* Meek, Edward Duncan.....Glencoe, Ohio
Ohio State University, A.B., 1896; A.M., 1899.
Education, Psychology.

Meeker, Royal.....Lawsville Center, Pa.
Iowa State College, B.S., 1898.
Political Economy and Finance, Sociology and Statistics, American History.

* Also a candidate for the Higher Diploma, Teachers College.
‖ Also a graduate student, Teachers College.

* Mertz, David Franklin.....Owosso, Mich.
University of Michigan, Ph.B., 1895.
Education, Philosophy, History.

* Meyer, John L.....Annville, Pa.
Lebanon Valley College, A.B., 1893.
Education, Psychology, Geography.

Miki, Shozaburo.....Tokushima, Japan
Higher Commercial College, Tokyo, Japan.
Political Economy and Finance, International Law, Sociology and Statistics.

† Miller, Ernest Allan.....Ithaca, N. Y.
Cornell University, B.S., 1899.
Education, Mathematics, Philosophy.

Miller, George Henry.....(Mhtn) New York City
International Law, Administrative Law, Political Economy and Finance, Sociology and Statistics.

Miller, Joseph Warren, Jr.....Harrisburg, Pa.
Pennsylvania State College, B.S., 1897.
Columbia University, A.M., 1899.
Mechanics, Mathematics, Astronomy.

Mitchell, Theodore Clarence.....(Mhtn) New York City
Columbia University, A.B., 1886.
Education, European History, and Rhetoric.

Mohr, Albert Gustav.....(Mhtn) New York City
College of the City of New York, A.B., 1895.
Sociology and Statistics, Political Economy and Finance, Church History.

Moody, Herbert Raymond.....(Mhtn) New York City
Massachusetts Institute of Technology, B.S., 1892.
Chemistry, Electrical Engineering, Bacteriology.

Moore, Charles Haywood.....Providence, R. I.
Music.

Morlath, William.....(Mhtn) New York City
New York College of Pharmacy, Ph.G., 1896.
Chemistry.

Morse, Livingston Burrill.....Upper Montclair, N. J.
College of the City of New York, B.S., 1889.
Sociology and Statistics.

Murfin, Arthur M.....Sleepy Eye, Minn.
University of Minnesota, B.S., 1895.
Political Economy and Finance, Sociology and Statistics, American History, Philosophy.

Murphy, John Arthur.....West Hoboken, N. J.
St. Francis Xavier College, A.B., 1899.
Literature, Political Economy and Finance, Sociology and Statistics.

* Also a candidate for the Higher Diploma, Teachers College.
† Also a candidate for the Secondary Diploma, Teachers College.

Murray, Archibald.....Morristown, N. J.
Harvard University, A.B., 1896.
Astronomy, Mechanics, Physics.

Murray, William Smith.....Bath, N. Y.
Syracuse University, B.S., 1888; M.S., 1892.
Education, Literature, and European History.

Nadeau, Oscar.....(Mhtn) New York City
Music.

Nation, Blake Beyer.....Peekskill, N. Y.
Chemistry.

Natori, Wasaku.....Tokyo, Japan
Keiogijinku University, Japan, A.B., 1894; A.M., 1897.
Political Economy and Finance, Sociology and Statistics.

Neidlinger, Charles R.....(Mhtn) New York City
International Law, Administrative Law, Political Economy and Finance, Sociology and Statistics.

Neish, Arthur Colon.....Kingston, Canada
Queens College, Canada, A.B., 1898.
Chemistry, Mineralogy, German.

Nelson, Leon Maurice.....(Bklyn) New York City
University of Cincinnati, A.B., 1898.
Philosophy and Education.

Newman, Fred. Beebe.....Plainfield, N. J.
Williams College, A.B., 1898.
Sociology and Statistics.

Nordby, Conrad Hjalmar.....(Mhtn) New York City
College of the City of New York, B.S., 1886.
German.

‡ O'Connor, Edward Francis.....(Mhtn) New York City
College of the City of New York, B.S., 1896.
Education.

Owens, Robert J., Jr.....(Mhtn) New York City
Political History, Constitutional Law, Political Economy and Finance, European History, American History.

Peacock, Daniel Lawrence.....Richmond, Ind.
Earlham College, Ind., B.L., 1895.
Sociology and Statistics, Political Economy and Finance.

Peet, Theodore.....(Mhtn) New York City
Yale University, A.B., 1877.
German, Education, and French.

Pegram, George Braxton.....Durham, N. C.
Trinity College (N. C.), A.B., 1895.
Physics, Mechanics, Mathematics, Chemistry.

Penney, Clarence John.....(Mhtn) New York City
College of the City of New York, A.B., 1899.
Music.

‡ Also a candidate for the Elementary Diploma, Teachers College.

Perrin, Ernest Noël.....(Mhtn) New York City
College of the City of New York, A.B., 1879.
Harvard University, A.B., 1882.
Columbia University, LL.B., 1885.
Romance Languages and Literatures and Education.

Peters, Frederick Augustus.....(Mhtn) New York City
Columbia University, A.B., 1896.
Union Theological Seminary, B.D., 1899.
Education.

* Pilgrim, Yancy Calhoun.....Phillipsburg, N. J.
Lafayette College, Ph.B., 1889; M.S., 1892.
Education.

Plum, Harry Grant.....Iowa City, Ia.
Iowa State University, A.M., 1896.
European History, American History, Constitutional Law.

Pope, Jesse Eliphalet.....Minneapolis, Minn.
University of Minnesota, B.S., 1895; M.S., 1897.
American History, Political History, Philosophy.

Powell, Charley Samuel.....Minneapolis, Kansas
Kansas State University, A.B., 1897.
Mathematics, Economics, Astronomy.

Pretzfeld, Charles Joseph.....(Mhtn) New York City
Columbia University, A.B., 1898.
Chemistry, Mineralogy, Physics.

Prevey, Comadore Edward.....Elroy, Wis.
University of Wisconsin, B.L., 1895.
Columbia University, A.M., 1899.
Sociology and Statistics, Political Economy and Finance, American History.

Proper, Emberson Edward.....Titusville, Pa.
Allegheny College, A.B., 1889.
Harvard University, A.M., 1893.
Administrative Law, Sociology and Statistics, American History.

Radin, Max.....(Mhtn) New York City
College of the City of New York, A.B., 1899.
Greek and Latin.

Raper, Charles Lee.....High Point, N. C.
Trinity College, N.C., A.B., 1892.
American History, European History, Political Economy and Finance.

Ratzell, Joseph Perry.....Sanderton, Pa.
Franklin and Marshall College, A.B., 1896.
Columbia University, A.M., 1899.
Sociology and Statistics, Political Economy and Finance, Church History.

* Ray, Martin H.....(Mhtn) New York City
College of the City of New York, A.B., 1867; A.M., 1870.
Education.

Rea, Paul Marshall.....Exeter, N. H.
Williams College, A.B., 1899.
Zoölogy, Botany, Physiology.

* Also a candidate for the Higher Diploma, Teachers College.

Reich, Sigmund.....(Mhtn) New York City
College of the City of New York, A.B., 1895.
Semitic Languages, English, and German.

* Reilly, Bryan Joseph.....(Bklyn) New York City
College of St. Francis Xavier, Ph.B., 1877.
Education.

* Reynolds, James Joseph.....(Br) New York City
College of the City of New York, B.S., 1893.
New York University, LL.B., 1896.
Education.

Riederer, Herman Simon.....(Mhtn) New York City
College of the City of New York, B.S., 1898.
Chemistry, Physics, Mineralogy.

Riegelman, Irving Washington(Mhtn) New York City
University of Michigan, B.L., 1899.
German and Philosophy.

Robinson, Franklyn Whittmann.....(Br) New York City
College of the City of New York, B.S., 1895.
Music, Literature, and Philosophy.

Rode, Harry.....Brownstown, Ill.
Blackburn University, B.S., 1898.
Political Economy and Finance, Political History, Sociology and Statistics.

Rollins, Frank.....(Mhtn) New York City
Wesleyan University, A.B., 1889.
Education and Sociology.

Rosensohn, Samuel Julian.....(Mhtn) New York City
College of the City of New York, A.B., 1898.
Economics, American History, Administrative Law.

Ruddell, Frank Stallo.....Indianapolis, Ind.
Leland Stanford Jr. University, A.B., 1897.
New York Law School, LL.B., 1899.
International Law, American History, Political History.

Rupp, August.....(Mhtn) New York City
College of the City of New York, A.B., 1884.
Latin and Greek.

Sakurai, Notushiro.....Tokyo, Japan
Keiogijinku University, Japan, A.B., 1894 ; A.M., 1898.
Political Economy and Finance, Sociology and Statistics, Comparative Jurisprudence.

Salant, Aaron Bennett.....(Mhtn) New York City
College of the City of New York, B.S., 1897.
American History, European History, Sociology and Statistics, Political Economy and Finance.

Salant, Lewis.....(Mhtn) New York City
College of the City of New York, A.B., 1898.
Latin and Greek.

* Also a candidate for the Higher Diploma, Teachers College.

Salant, William.....(Mhtn) New York City
Cornell University, B.S., 1894.
Columbia University, M.D., 1899.
Zoölogy.

Schley, Grant Barney, Jr.....(Mhtn) New York City
European History, Political Economy and Finance.

Schuyler, Montgomery, Jr.....(Mhtn) New York City
Columbia University, A.B., 1899.
Indo-Iranian Languages and French.

Scisco, Louis Dow.....(Mhtn) New York City
Cornell University, B.S., 1888.
University of Michigan, B.L., 1898.
American History, European History, Constitutional Law.

Scott, George Gilmore.....Geneseo, N. Y.
Williams College, A.B., 1898 ; A.M., 1899.
Zoölogy, Botany, Physiology.

Scott, George Winfield Chicago, Ill.
Leland Stanford Jr. University, A.B., 1896.
International Law, Constitutional Law.

Sears, Charles Hatch.....Fabius, N. Y.
Colgate University, A.B., 1898.
Sociology and Statistics, Political Economy and Finance, Church History.

Seymour, Arthur Trumbull.....(Mhtn) New York City
Cornell University, B.L., 1892.
Physics, Mechanics.

Sheppard, James Joseph.....(Mhtn) New York City
Harvard University, A.B., 1894.
European History.

Shinoda, Masatake.....Tokyo, Japan
New York University, A.M., 1898.
Economics.

Shotwell, James Thomson.....Strathroy, Ont.
Toronto University, A.B., 1898.
European History, American History, Political Economy and Finance.

Shufro, Jacob J.....(Mhtn) New York City
College of the City of New York, B.S., 1899.
American History.

Sieker, Henry, Jr.....(Mhtn) New York City
Northwestern University, A.B., 1896.
European History, Sociology and Statistics, Philosophy.

Sinclair, Upton Beall, Jr.....(Mhtn) New York City
College of the City of New York, A.B., 1897.
Literature, Philosophy, History, Music, German, and French.

Slocovich, William Parsons.....New Brunswick, N. J.
Sheffield Scientific School, Ph.B., 1898.
Political Economy and Finance, European History, American History, Political History.

Smith, Edward Laurence.....Newark, Delaware
Delaware College, A.B., 1896; A.M., 1899.
Romance Languages and Literatures, and German.

*Smith, Frank Webster.....Lincoln, Mass.
Harvard College, A.B., 1877; A.M., 1882.
Education, Psychology.

Smith, Samuel McKee.....Chatham, N. Y.
Cornell University, Ph.B., 1877.
American History.

Smith, William Roy.....Austin, Texas
University of Texas, A.B., 1897; A.M., 1898.
American History, European History, Administrative Law, Political Economy and Finance, Philosophy.

Spencer, John Oakley.....Mt. Vernon, N. Y.
Illinois Wesleyan University, Ph.B., 1888; A.M., 1891; Ph.D., 1894.
International Law, Constitutional Law, Political Economy and Finance, American History, Philosophy.

Spenser, Armand.....(Mhtn) New York City
University of Paris, B.L., 1896.
Romance Languages and Literatures and German.

Sperry, Earl Evelyn.....Syracuse, N. Y.
Syracuse University, Ph.B., 1898.
European History, American History, Constitutional Law.

*Stauffer, Amos Frank.....Lewisburg, Pa.
Central State Normal School, B.E., 1884; M.E., 1886.
Lafayette College, A.B., 1891; A.M., 1894.
Education, Psychology, Geography.

Stern, Nathan.....(Mhtn) New York City
Columbia University, A.B., 1898; A.M., 1899.
Semitic, Sociology, and Statistics.

Stoeckius, Alfred.....(Mhtn) New York City
Gymnasium, Sandershausen, 1891.
University of Pennsylvania, 1894–6.
German and English.

Stotler, James Halderman.....(Mhtn) New York City
University of Buffalo, M.D., 1891.
Zoölogy, Astronomy.

Stroup, Ner Wallace.....Madison, N. J.
Mt. Union College, A.B., 1897.
Sociology and Statistics.

Suzuki, Teikishi.....Kioto, Japan
Sociology and Statistics.

Swanton, John Reed.....Roxbury, Mass.
Harvard University, A.B., 1896; A.M., 1897.
Anthropology, Philosophy, and Psychology.

* Also a candidate for the Higher Diploma, Teachers College.

Tanner, Edwin Platt.....Paterson, N. J.
Columbia University, A.B., 1897; A.M., 1898.
European History.

Thompson, Holland.....Statesville, N. C.
University of North Carolina, Ph.B., 1895.
Political Economy and Finance, Sociology and Statistics, American History.

Torrey, John Cutler.....Burlington, Vt.
University of Vermont, A.B., 1898.
Zoölogy, Botany, Physiology.

Trowbridge, Edwin Kellogg.....(Mhtn) New York City
Williams College, A.B., 1899.
Physics, Chemistry, Mineralogy.

Tsilka, Gregory Marcus.....Monastir, Turkey
Sociology and Statistics.

Vail, Newton Foster.....Geneva, N. Y.
Hobart College, A.B., 1890.
Yale University, A.B., 1892.
Latin and Greek.

Van Harlingen, Edward M.....(Mhtn) New York City
Ohio State University, B.S., 1883; M.S., 1897.
Zoölogy, Physiology, Botany.

Walcott, Gregory Dexter.....Warren, R. I.
Brown University, A.B., 1897.
Columbia University, A.M., 1899.
Sociology and Statistics.

Waldman, Morris David.....(Mhtn) New York City
New York University, Ph.B., 1898.
Semitic Languages, Philosophy, and Education.

Walker, Martin.....(Mhtn) New York City
Concordia College, Indiana, 1896.
Concordia Theological Seminary, 1899.
European History, American History, Philosophy.

Walsworth, Charles Lorenzo.....Cornwall, N. Y.
Syracuse University, A.B., 1889; A.M., 1891.
Drew Theological Seminary, B.D., 1893.
European History, American History, Sociology and Statistics.

Ward, Frank Edwin.....(Mhtn) New York City
Music.

Ware, Edward Twichell.....Hartford, Conn.
Yale University, A.B., 1897.
Sociology and Statistics, Church History, Philosophy.

Warner, Arthur Hallam.....Washington, D. C.
Beloit College, Ph.B., 1898.
Political Economy and Finance, Sociology and Statistics, International Law.

Washington, Henry Stephens.....Locust, N. J.
Yale University, A.B., 1886; A.M., 1888.
University of Leipzig., Ph.D., 1893.
Geology.

Watkins, Arthur Charles.....Auburn, N. Y.
Johns Hopkins University, A.B., 1895.
Literature, Greek, and Sociology and Statistics.

Weatherby, Ulysses Grant.....Bloomington, Ind.
Colgate University, A.B., 1890.
Cornell University, Ph.D., 1894.
Political Economy and Finance, Sociology and Statistics, Philosophy.

Wells, John Edwin.....Philadelphia, Pa.
Swarthmore College, B.L., 1896; M.L., 1899.
English, German, Literature, and Romance Languages and Literatures.

Whitaker, Albert Conser.....(Mhtn) New York City
Leland Stanford Jr. University, A.B., 1899.
Political Economy and Finance, Sociology and Statistics, Administrative Law, Philosophy.

White, Charles Browning.....Middleburg, N. Y.
Harvard University, A.B., 1896.
Sociology and Statistics, Political Economy and Finance, Church History.

Whitin, Frederick Henry.....(Bklyn) New York City
Political History, Administrative Law, Political Economy and Finance.

† Wilbur, Herbert Lemuel.....Easton, Mass.
Amherst College, A.B., 1892.
Education, Psychology, and Latin.

Willett, Allan Herbert.....Urbana, O.
Brown University, A.B., 1886; A.M., 1889.
Political Economy and Finance, Sociology and Statistics, American History.

Williams, James Mickel.....Waterville, N. Y.
Brown University, A.B., 1898.
Political Economy and Finance, Sociology and Statistics, Church History.

Williams, John.....(Mhtn) New York City
Trinity College, A.B., 1890; A.M., 1893.
Philosophy.

Williams, John McCoy.....Chino, Cal.
Chemistry.

Winter, Alpheus, Jr.....(Mhtn) New York City.
Centre College, Ky., A.B., 1899.
American History, European History, Political Economy.

Wise, Stephen Seymour.....(Mhtn) New York City
Columbia University, A.B., 1892.
Semitic Languages and Philosophy.

Wollmann, Conrad.....(Mhtn) New York City
Gymnasium of Jena, Testimonium Maturitatis, 1887.
New York Law School, LL.B., 1897.
Latin, Greek, and French.

Wood, Arthur Julius.....(Bklyn) New York City
Stevens Institute of Technology, Mech. E., 1896.
Mechanics.

† Also a candidate for the Secondary Diploma, Teachers College.

Woods, Harry Irwin.....(Mhtn) New York City
Lafayette College, A.B., 1895; A.M., 1898.
Astronomy, Mathematics, Mechanics, French.

Woodward, Charles Guilford.....Hartford, Conn.
Trinity College, A.B., 1898.
Political Economy and Finance, European History, Sociology and Statistics.

Woolley, Edwin Campbell.....Chicago, Ill.
University of Chicago, A.B., 1898.
International Law, Constitutional Law, European History, Political Economy and Finance, Political History.

Wright, Harrison King.....Pulaski, N. Y.
Union College, A.B., 1899.
Philosophy.

Wyckoff, Garrett Polhemus.....Grinnell, Iowa
Iowa College, A.B., 1894.
Sociology and Statistics, Political Economy and Finance, Political History.

Yamagata, Paul Otozo.....(Mhtn) New York City
European History, Sociology and Statistics.

Yohannan, Isaac.....(Mhtn) New York City
Columbia University, A.B., 1897; A.M., 1899.
Semitic and Indo-Iranian Languages.

Yoneda, Shotaro.....Nara, Japan
Sociology and Statistics, Political Economy and Finance, Philosophy.

Zeiger, Franklin.....Montclair, N. J.
Columbia University, A.B., 1898.
Philosophy, Psychology, and Sociology and Statistics.

SUMMARY

Students Primarily Registered under these Faculties		316
Students from other Faculties of the University:		
Seniors in the College	90	
From the School of Law	70	
From the School of Medicine	15	
From the School of Applied Science	19	
		193
Students from Barnard College		64 *
Students from Teachers College (not candidates for Ph.D. or A.M. Degrees)		10
Total		583

* Details stated under head of Barnard College.

BARNARD COLLEGE

TRUSTEES

ABRAM S. HEWITT, LL.D., *Chairman*
Mrs. A. A. ANDERSON, *Vice-Chairman*
HAMILTON W. MABIE, L.H.D., *Secretary*
GEORGE A. PLIMPTON, *Treasurer*

Mrs. FRANCIS B. ARNOLD
Miss HELEN DAWES BROWN
Mrs. WILLIAM C. BROWNELL
SILAS B. BROWNELL, LL.D.
Mrs. JOSEPH H. CHOATE
FREDERIC R. COUDERT, LL.D.
Rev. Dr. WM. GROSVENOR
Mrs. SETH LOW
Mrs. ALFRED MEYER
Mrs. HENRY F. OSBORN
Mrs. HENRY M. SANDERS
EDWARD W. SHELDON
Mrs. GEORGE HAVEN PUTNAM
GEORGE W. SMITH
Mrs. JAMES S. T. STRANAHAN
Mrs. JAMES TALCOTT
FREDERICK S. WAIT
EVERETT P. WHEELER

DEAN

EMILY JAMES PUTNAM, A.B.

BURSAR

N. W. LIGGETT, A.B.

HEAD OF FISKE HALL

SUSAN GRIMES WALKER, A.B.

DEAN'S SECRETARY

ELIZABETH METCALF

In 1883 the Trustees of Columbia College offered degrees to women who should be able to pass the necessary examinations, without, however, providing instruction for them. The resulting system, called *The Collegiate Course for Women*, proved unsatisfactory to both parties. It was found necessary to provide instruction for women which should be identical with or equivalent to that provided by Columbia for men, and in 1889 Barnard College was organized with this purpose in view. Courses under eighty-one instructors in this University are open to students in Barnard College, in some cases at the College and in some at the University. The College duplicates for women as far as possible the curriculum of Columbia College and also registers for graduate work under

the University faculties women who hold the bachelor's degree from institutions of good standing. Examinations for admission to Barnard College, those given in course, and those for degrees, are conducted by Columbia University. During the first three undergraduate years separate instruction is given to women; in the Senior year they are admitted to certain courses in the University. Graduate students attend many courses at Columbia University under the Faculties of Philosophy, Political Science, and Pure Science. Laboratory work under the Faculty of Pure Science is given at Barnard College.

By the terms of an agreement between Columbia University and Barnard College and Teachers College, students of Teachers College are permitted to attend courses in Barnard College.

This institution offers reciprocal privileges to students of Barnard College.

ADMISSION

Graduate Students

Women who hold the bachelor's degree from an American college or university of good standing, or an equivalent from a foreign institution of learning, are enrolled without examination under faculties of Columbia University and are required to register in Barnard College. Information in regard to graduate courses is published in separate pamphlets.

Undergraduate Students

For undergraduates, the requirements for admission are the same as those for admission to Columbia College (pp. 191, *ff*). The examinations are held on the days and at the hours stated on page 191, at Barnard College.

Special Students

Students who do not wish to proceed to a degree are enrolled as special students; they will, however, in the event of a change of plan, be credited with such of their courses as may coincide with the courses leading to a degree. All special students, with the exception specified below, must have passed the examination for matriculation.

Special Students in Music

Special students may be admitted to courses in music without examination in other subjects.

SCHOLARSHIPS AND PRIZES

Trustees' Competitive Scholarship

A scholarship of $150 is awarded annually to the student who is examined at the College in June and passes the best complete entrance examination in all subjects. The papers of the students who pass free from conditions are examined by the Committee of the Faculty on Entrance Examinations, and the student whose papers as a whole entitle her to the first rank is awarded the scholarship.

Ella Weed Scholarship

A scholarship of $150, founded in memory of Miss Ella Weed by past and present pupils of Miss Anne Brown's School, is awarded annually to a student who needs and deserves assistance.

Veltin School Scholarship

A scholarship of $150, given by the alumnæ of Mlle. Veltin's School, is awarded annually on the same conditions as the Ella Weed Scholarship.

Brooklyn Scholarships

Twelve scholarships, founded by the Trustees of Columbia University in 1895, in recognition of the gift to Columbia University by President Low of a memorial building for the Library, are open for competition to candidates for admission to Barnard College who are residents of Brooklyn, N. Y., and have received their training in either the public or the private schools of that borough. Three of these scholarships are awarded annually to the three qualified competitors who are examined in Barnard College in June and pass complete entrance examinations in all subjects. The papers of the competitors who pass without conditions will be examined by the Committee of the Columbia College Faculty on Entrance Examinations, and the three students whose papers as a whole are entitled to the highest rank will receive the scholarships.

Each scholarship entitles its holder to receive the sum of $150 per annum during the college course; but if she fail to maintain a standing of at least grade C in all of the courses pursued by her, or if she commit any breach of good order, she shall forfeit the scholarship.

Should any recipient desire, she may, while still retaining the title "Brooklyn Scholar," transfer to any properly qualified candidate from Brooklyn the income from the scholarship; and such action on her part will not be made a matter of public record.

All persons intending to compete for these scholarships must submit satisfactory certificates of character and proficiency from the schools which they have last attended, and must state in writing that it is their intention to spend at least one year at Barnard College.

Mrs. Donald McLean Scholarship

A scholarship of $150, founded by the New York Chapter of the Daughters of the American Revolution, is awarded to a student who needs and deserves it, and who agrees to pursue the study of history (chiefly that of the United States) continuously throughout her course.

Jennie B. Clarkson Scholarship

A scholarship of $150, founded in 1898 by Mrs. W. R. Clarkson, is awarded annually to a student who deserves assistance.

Lucille Pulitzer Scholarship

A fund of $10,000 was given in 1899 by Joseph Pulitzer, Esq., to establish a scholarship in memory of his daughter Lucille Pulitzer. The annual income of

the fund is applied to the use of the holder of the scholarship, which is awarded by the Trustees to the undergraduate student entering the College from the city of New York who is found to have passed the best examinations and to have shown herself to be most worthy in every way.

Emily James Smith Scholarship

This scholarship was founded in 1899 by Miss Emily H. Bourne in honor of the Dean of the College. It is awarded annually at the discretion of the founder in conference with the representatives of the College.

Anna E. Barnard Scholarship

This scholarship was founded in 1899 by Miss Emily H. Bourne in honor of her sister, Mrs. General John G. Barnard. It is awarded annually on the same terms as the Emily James Smith Scholarship.

The Brearley School Scholarship

A scholarship of $150, given in 1899 by pupils and former pupils of the Brearley School, will be awarded annually to a student who deserves assistance.

Curtis Graduate Scholarships

Four scholarships of $150 per annum, founded in the same manner as the preceding, will be awarded annually to the four most satisfactory graduate students. Applications should be filed before the 1st of April with the Dean of Barnard College. Blanks for this purpose may be obtained on application to the Dean's Secretary.

Fiske Graduate Scholarship

A scholarship of $250, founded by Mrs. Josiah M. Fiske, will be awarded annually to the most satisfactory graduate student in Political Science. Applications should be filed before April 1st with the Dean of Barnard College. Blanks for the purpose may be obtained on application to the Dean's Secretary.

Herrman Botanical Prize

A prize of $50, founded by Mrs. Esther Herrman, is awarded annually for excellence in botany.

Kohn Mathematical prize

A prize of $50, founded by Mrs. S. H. Kohn, is awarded annually to a Senior for excellence in mathematics. Competitors for this prize must have pursued mathematics continuously during their college course.

Chemistry Prize

A prize of $25 is awarded annually for excellence in Sophomore chemistry.

Bunner Medal

By the terms of its establishment, the H. C. Bunner Gold Medal (page 24) is open for competition to students in Barnard College.

Hoblitzell Medal

The Lavinia Carleton Hoblitzell Memorial Medal, of the value of $100, founded by Miss Lavinia Dempsey, is awarded annually to the member of the graduating class who presents the best essay on a topic in American history.

The College is now established in its new buildings on Morningside Heights, with enlarged laboratories of physics, chemistry, botany, and zoölogy. Students in Barnard College have the use of the University Library. Applications for information should be addressed to *The Dean's Secretary, Barnard College, New York City.*

REGISTER OF STUDENTS

GRADUATE STUDENTS

Andrews, Grace.....(Mhtn) New York City
Wellesley College, B.S.
Columbia University, A.M.
Mathematics.

Banta, May.....(Bklyn) New York City
Wellesley College, B.S.
Chemistry, Botany.

Bates, Abby Barstow.....Newton, Mass.
Boston University, A.B., A.M.
History.

Belcher, Sarah Browne.....(Mhtn) New York City
Boston University, A.B.
New York University, A.M.
Woman's Medical College, M.D.
Sociology.

Bloomingdale, Rosalie.....(Mhtn) New York City
Columbia University, A.B.
Economics, Sociology, History.

Boetzkes, Edith Helen.....(Bklyn) New York City
Columbia University, A.B.
German.

† Bogart, Sarah Helen.....(Mhtn) New York City
Wellesley College, A.B.
Education, Latin, Greek.

du Bois, Elizabeth Hickman.....(Mhtn) New York City
Cornell University, A.B.
Latin, Greek.

† Bracken, Mary Frances.....Pittsburg, Pa.
Pittsburg Female College, A.B.
Mathematics.

† Brickelmaier, Alice Gertrude.....(Bklyn) New York City
Cornell University, B.S.
Education, German.

Brown, Marianna Catherine.....(Mhtn) New York City
Vassar College, A.B.
Education, Latin.

Bryson, Ella Fitz Gerald (Mrs. F. G. Bryson).....(Mhtn) New York City
Columbia University, A.B.
Greek.

† Also a candidate for the Secondary Diploma, Teachers College.

Casamajor, Alice.....(Bklyn) New York City
Adelphi College, A.B.
History, Sociology.

Coddington, Emily Matilda.....(Mhtn) New York City
London University, A.B.
Columbia University, A.M.
Mathematics, Greek.

Coe, Miriam Storrs.....(Mhtn) New York City
Smith College, B.S.
Physics.

Cram, Helen Lillie.....(Mhtn) New York City
University of Vermont, A.B.
Education, Sociology, Psychology.

Davison, Ellen Scott.....Louisville, Ky.
Wellesley College, B.S.
Western Reserve University, A.M.
History, Sociology.

Dewolf, Grace Amelia.....Newark, N. J.
Bucknell University, Ph.B.
Mathematics, Astronomy, Mechanics.

Dowden, Florence Anderson.....Newark, N. J.
Columbia University, A.B.
English, Education.

Emerson, Ruth.....(Mhtn) New York City
Bryn Mawr College, A.B.
Greek.

Fishel, Lillian Henrietta.....Babylon, L. I.
Wellesley College, B.S.
Latin.

Flint, Frances Elizabeth Holeman.....(Mhtn) New York City
Cornell University, A.B.
Greek, Education.

Furness, Caroline Ellen.....Cincinnati, O.
Vassar College, A.B.
Astronomy.

Gibson, Harriet Winfield (Mrs. J. S. Gibson).....Newark, N. J.
Wellesley College, A.B.
Columbia University, A.M., Ph.D.
Chemistry.

Gildersleeve, Virginia Crocheron.....(Mhtn) New York City
Columbia University, A.B.
History, Sociology.

Giles, Mabel Ferry.....Lake Forest, Ill.
Smith College, B.L.
Sociology.

Golay, Juliette.....Bangor, Me.
Vassar College, A.B.
Greek.

Goldmark, Josephine.....(Mhtn) New York City
Bryn Mawr College, A.B.
Education.

Hammerslough, Carrie.....(Mhtn) New York City
Columbia University, A.B., A.M.
Mathematics, Italian.

Hedden, Dorcas.....Charlton, N. Y.
University of Michigan, B.L.
German.

† Hewins, Nellie Priscilla.....(Q) New York City
Cornell University, B.S.
Botany, Zoölogy, Education.

Hill, Mabel Wood (Mrs. F. T. Hill).....(Mhtn) New York City
Smith College, B.L.
Music.

Hirst, Gertrude Mary.....Whitby, England
Cambridge University, England, A.B., equivalent certificate.
Greek, Latin.

Hulbert, Edythe Josephine.....(Mhtn) New York City
Vassar College, A.B.
Columbia University, A.M.
Sociology, Economics, Philosophy.

Hurd, Mabel.....(Mhtn) New York City
Smith College, B.L.
Anthropology.

* Jackson, Alice Rebekah.....Kennett Square, Pa.
Wellesley College, B.S.
English, Literature, Education.

Kelsey, Louise Hoyt.....(Mhtn) New York City
Smith College, A.B., A.M.
Education.

Lathrop, Ella Roselle.....Bridgeport, Conn.
Columbia University, A.B.
Greek, Latin.

Logan, Lily.....Howardsville, Va.
Tulane University, A.B.
Chemistry.

Loshe, Lillie Demming.....Stamford, Conn.
Bryn Mawr College, A.B.
Sociology, Literature, French.

McDowell, Clotilda Lyon (Mrs. W. F. McDowell).....(Mhtn) New York City
Ohio Wesleyan University, B.L.
Sociology.

McDowell, Mary Stone.....(Mhtn) New York City
Swarthmore College, A.B.
Latin, Education, Greek.

Maitland, Louise (Mrs. W. Maitland).....Palo Alto, Cal.
Leland Stanford Jr. University, A.B.
Philosophy, Education, Psychology.

Marshall, Florence Mabel.....(Mhtn) New York City
Boston University, A.B.
History.

* Also a candidate for Higher Diploma, Teachers College.
† Also a candidate for the Secondary Diploma, Teachers College.

Marshall, Jessica Beatrice(Mhtn) New York City
Syracuse University, Ph.B.
Cornell University, A.M.
Literature, *English*, *Education*.

Martin, Anna Henrietta Reno, Nevada
Leland Stanford, Jr., University, A.B., A.M.
History.

Mitchell, Charly Tiffany New London, Conn.
Bryn Mawr College, A.B.
Sociology, *History*. *Economics*.

Moore, Anna Lewis Framingham, Mass.
Smith College, A.B.
History, *Education*.

Myers, Susan Isabella.....(Mhtn) New York City
Columbia University, A.B., A.M.
Greek.

Nammack, Elizabeth Frances(Mhtn) New York City
Columbia University, A.B., A.M.
Latin, *Greek*.

Olmstead, Susan Hawley.....(Mhtn) New York City
University of Minnesota, B.L.
Education.

Opdyke, Florence Morey.....Jersey City, N. J.
Boston University, A.B.
History, *Literature*.

Ornstein, Martha.....(Mhtn) New York City
Columbia University, A.B.
Mathematics, *Mechanics*, *History*, *Sociology*.

†Palmer, Leila Madge.....(Bklyn) New York City
Smith College, A.B.
Greek.

Perkins, Alice Jane Gray.....Schenectady, N. Y.
Columbia University, A.B., A.M.
Latin, *Greek*.

Perkins, Anna Louise.....(Mhtn) New York City
Vassar College, A.B.
Music.

Pfizer, Alice Margarete Henriette.....(Bklyn) New York City
Adelphi College, A.B.
Sociology, *German*, *Psychology*.

Place, Louise.....(Mhtn) New York City
Columbia University, A.B.
Latin, *Education*, *Greek*.

Port, Mary Alice.....Chenango Forks, N. Y.
Smith College, A.B.
Greek, *Latin*, *Education*.

† Also a candidate for the Secondary Diploma, Teachers College.

†Reed, Emma Louisa.....(Mhtn) New York City
Wesleyan University, Ph.B.
History.

Reiley, Katharine Campbell.....(Mhtn) New York City
Vassar College, A.B.
Latin, Greek.

Rosenkrantz, Esther.....San Francisco, Cal.
Leland Stanford Jr. University, A.B.
Physics.

Schoneman, May Cadette.....(Mhtn) New York City
Bryn Mawr College, A.B.
Sociology, Literature, French.

Slater, Ora Winona Louise.....Summit, N. J.
Wellesley College, A.B.
Mechanics.

†Stevens, Mary Ellen.....Hiram, O.
Hiram College, B.S.
History.

Striker, Edith Parker.....East Orange, N. J.
Columbia University, A.B.
Greek, Education, Latin.

Torrance, Flora Chapman (Mrs. Torrance).....(Mhtn) New York City
Cornell University, Ph.B., Ph.M.
History.

Warren, Ruth Annette.....(Mhtn) New York City
Smith College, A.B.
Latin.

Watterson, Ada.....(Mhtn) New York City
Columbia University, A.B.
Botany, Zoölogy, Chemistry, Education.

Wilcox, Maude.....New Rochelle, N. Y.
Columbia University, A.B., A.M.
Economics.

†Wohlfarth, Amelia.....(Mhtn) New York City
Columbia University, A.B.
German, Education.

Wolff, Gertrude.....(Mhtn) New York City
Columbia University, A.B.
Latin.

Wood, Alice Ida.....(Mhtn) New York City
Wellesley College, B.S.
Education, English.

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† Also a candidate for the Secondary Diploma, Teachers College.

MUSIC STUDENTS

Aller, Kathryn L. Mt. Vernon, N. Y.
Barnes, Madaleine Winthrop (Mhtn) New York City
Boyd, Clifford Moody Mt. Vernon, Ia.
Brown, Helen Sabine Belvidere, Ill.
Chase, Mary Livingston Scarsdale, N. Y.
Chapin, Caroline Booth Englewood, N. J.
Dambmann, Emma Amelia Baltimore, Md.
Davis, Alice (Mhtn) New York City
Diller, Angela (Bklyn) New York City
Dyer, Agnes Louise (Bklyn) New York City
Gottschalk, Clara Aimee (Mhtn) New York City
Griffing, Anne Van Winkle (Mhtn) New York City
Harris, Bessie Comey (Mhtn) New York City
Hilton, Ida Leigh Nyack, N. Y.
Holmes, Caroline Sweet Montclair, N. J.
Kahnweiler, Bettina Jane (Mhtn) New York City
Lane, Cara (Mhtn) New York City
Levy, Fanny Granbery Mt. Vernon, N. Y.
Lienau, Cornelia Catherine (Mhtn) New York City
Littig, Mary Langsdorff (Mhtn) New York City
Lohmann, Helen (Mhtn) New York City
Loomis, Jeanet Ellinwood (Mhtn) New York City
Manning, Agnes (Mhtn) New York City
Mills, Constance Sprague San Diego, Cal.
Mitchell, Edith (Mhtn) New York City
Mitchell, Nina (Q) New York City
Olmsted, Lily Remington Buffalo, N. Y.
Porter, Jeannette Steele Covington, Ky.
Prosser, Mary Belle Kansas City, Mo.
Simmons, Fay Cambridge, Mass.
Underhill, Jean Williams (Mhtn) New York City
Van Ingen, Helen (Bklyn) New York City
Watson, Jo-Shipley Emporia, Kan.
Weil, Helene Margaret (Mhtn) New York City
Weymouth, Grace Margaret Lock Haven, Pa.
Whitehead, Julia Halsey (Mhtn) New York City
Whiteside, Mary (Mhtn) New York City
Woodman, Frances Urania (Mhtn) New York City

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SPECIAL STUDENTS

Butler, Eliza Rhees Paterson, N. J.
Byrnes, Clara (Mhtn) New York City
Carman, Cerise Emily Agnes (Mhtn) New York City
Finnigan, Bessie May (Mhtn) New York City

Haydock, Amelia.....(Mhtn) New York City
Lewis, Mary Sinton.....Morristown, N. J.
Liebmann, Clara (Mrs. Liebmann).....(Mhtn) New York City
Miller, Mary Anna Cotton.....Enfield, Mass.
Mitchell, Evelyn Groesbeeck.....East Orange, N. J.
Moffett, Jeannette Todd.....Watertown, N. Y.
Murray, Harriet Cook.....(Mhtn) New York City
Parsons, Constance.....(Mhtn) New York City
Pratt, Harriette Louise.....New Milford, Pa.
Sait, Muriel.....Toronto, Canada
Simons, Letitia Willis.....Port Chester, N. Y.
Straus, Minnie.....(Mhtn) New York City
Thompson, Maud.....(Mhtn) New York City
Warren, Belle Reed.....(Mhtn) New York City

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SENIOR CLASS

Baldwin, Florence Theodora.....(Mhtn) New York City
Barrick, Willina.....Jersey City, N. J.
† Bennett, Agnes Leonard.....Hackensack, N. J.
Blossom, Margaret.....(Bklyn) New York City
† Bryant, Elizabeth Eggleston.....Gilbertsville, N. Y.
* Chandor, Valentine Laura.....Plainfield, N. J.
Clarke, Madge Sutherland.....(Bklyn) New York City
Cole, Helen.....Yonkers, N. Y.
Crawford, Margaret.....Jersey City, N. J.
Dale, Florence Dwight.....(Mhtn) New York City
Germann, Susan Matilda.....(Bklyn) New York City
Gillespy, Jeannette Bliss.....(Mhtn) New York City
† Goldsborough, Mary Loockerman.....Easton, Md.
† Hubbard, Mildred.....Winchester, Ill.
† Hutchinson, Florence.....So. Orange, N. J.
Karger, Louise.....Cleveland, O.
† Keagey, Esther.....(Mhtn) New York City
Keller, Eleanor.....(Mhtn) New York City
Kingsbury, Stella F.....(Mhtn) New York City
† Kyte, Florence Leslie.....Fanwood, N. J.
Levy, Martha Washington.....Newark, N. J.
Lippincott, Florence.....(Mhtn) New York City
Maplesden, Elizabeth Hoffman.....(Bklyn) New York City
Newborg, Hilda.....(Mhtn) New York City
Newcomb, Virginia.....Boston, Mass.
Osborne, Evelyn.....(Mhtn) New York City
Reiley, Ellinor Ten Broeck.....(Mhtn) New York City
Rosenstein, Sarah Bertha.....(Mhtn) New York City
† Sandford, Emma Dusinberre.....Geneva, N. Y.

* Also a candidate for the Higher Diploma, Teachers College.
† Also a candidate for the Secondary Diploma, Teachers College.

Schwed, Cecile Heller (Mhtn) New York City
† Scott, Cora Arnot (Mhtn) New York City
Sill, Florence Miller (Mhtn) New York City
Simpson, Edna Bell Beaver Falls, Pa.
Sumner, Mary Brown (Mhtn) New York City
Straus, Sara (Mhtn) New York City
† Van Horne, Katharine Jersey City, N. J.
Watkins, Julia Cooper Montclair, N. J.
Woodhull, Mary Caldwell Craigsville, N. Y.
† Wurzburger, Julie (Mhtn) New York City

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JUNIOR CLASS

Barrick, Mary Olive Jersey City, N. J.
Beer, Alice (Mhtn) New York City
Bergen, Elsa Gubner (Bklyn) New York City
Berry, Edith East Orange, N. J.
Bloodgood, Lisa Delavan (Bklyn) New York City
Buffington, Margaret Milburn, N. J.
Cameron, Marie Elise Helen Woodside, N. Y.
Catlin, Helen Elizabeth Bloomfield, N. J.
Cutting, Harriet Elizabeth Yonkers, N. Y.
Dederer, Pauline Hamilton (Mhtn) New York City
Eaton, Mary Lavinia Nyack, N. Y.
Elting, Mabel New Paltz, N. Y.
Fisher, Mary Hedges Mt. Vernon, N. Y.
Hanks, Lenda Tracy (Mhtn) New York City
Heroy, Madalene (Mhtn) New York City
Hudson, Clara Elizabeth (Q) New York City
Isaacs, Isabel Estelle (Mhtn) New York City
Jacobs, Lillie Friedlander (Mhtn) New York City
Johnson, Adèle Remsen (Bklyn) New York City
Josephthal, Hilda Emily (Mhtn) New York City
Kane, Helen Agnes (Bklyn) New York City
Kellogg, Olive Katharine (Mhtn) New York City
Kraker, Rose Lois (Mhtn) New York City
Lovemann, Amy (Mhtn) New York City
McKim, Christina Louise Yonkers, N. Y.
Oppenheimer, Florence (Mhtn) New York City
Osborn, Bessie May Yonkers, N. Y.
Pollak, Meta Summit, N. J.
Preston, Jennie Florence Orange, N. J.
Rennert, Rosina Julia (Mhtn) New York City
Roberts, Elizabeth Carpenter (Q) New York City
Sanville, Florence Lucas (Mhtn) New York City
Schuyler, Sarah Edwards Plainfield, N. J.

† Also a candidate for the Secondary Diploma, Teachers College.

Straus, Sissie.....(Mhtn) New York City
Studdiford, Janetta Gordon.....Lambertsville, N. J.
Townsend, Marian Goodale.....(Mhtn) New York City
Wallach, Alma Frank.....(Mhtn) New York City
Wendell, May Godfrey.....Bridgeport, Conn.
Wendt, Cordelia.....Larchmont, N. Y.
Whitney, Catherine Elizabeth.....(Mhtn) New York City
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SOPHOMORE CLASS

Allen, Elizabeth.....(Bklyn) New York City
Alsberg, Elsa.....(Mhtn) New York City
Belcher, Frances Elinor.....Mt. Vernon, N. Y.
Brown, Bertha.....Bloomfield, Canada
Budd, Mary Hunt.....Chester, N. J.
Carll, Adele.....(Q) New York City
Chapin, Edna Cara.....Mt. Vernon, N. Y.
Clark, Margaret Elizabeth.....Amenia Union, N. Y.
Coddington, Elizabeth Cadmus.....Passaic, N. J.
Cook, Clara Coburn.....Yonkers, N. Y.
DeHart, Grace Lucille.....Jersey City, N. J.
Donald, Rebecca Staunton.....(Mhtn) New York City
Durant, Edith.....(Mhtn) New York City
Dutcher, Eva Olive.....(Bklyn) New York City
Earl, Ruth.....(Mhtn) New York City
Elliman, Margaret Grote.....(Mhtn) New York City
Hall, Mary Dederick.....Mt. Vernon, N. Y.
Hunt, Eleanore Harrison.....West Orange, N. J.
Ingalls, Edith May.....New Rochelle, N, Y.
Kimball, Viola Louise.....Greenwich, Conn.
McKenney, Annie Pickrell.....Petersburg, Va.
Moore, Martha Wickham.....Passaic, N. J.
Neiswender, Ada Blanche Clous.....(Bklyn) New York City
Newman, Ethel Leone.....Riverside, Conn.
Oppenheim, Flossy May.....Albany, N. Y.
Peters, Grace Malvina.....(Bklyn) New York City
Phelps, Eleanor.....(Mhtn) New York City
Pollak, Wilma Vera.....(Mhtn) New York City
Rosenstein, Alma.....(Mhtn) New York City
Seibert, Jeannette Rowland.....(Bklyn) New York City
Seward, Annie Leddell.....East Orange, N. J.
Shaen, Mary Carolyn.....Yonkers, N. Y.
Totten, Elsie Lloyd.....(Mhtn) New York City
VanCott, Eleanore Elizabeth.....(Mhtn)New York City
Wehncke, Marie Louise.....(R) New York City
Winterburn, Una Adele.....Edgewater, N. J.
Wright, Helen Maria.....(Bklyn) New York City
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FRESHMAN CLASS

Addoms, Jessie Alice.....(Bklyn) New York City
Bamberger, Alice Clara Judith.....(Mhtn) New York City
Bogia, Susan Harris.....Passaic, N. J.
Boote, Edith Yonkers, N. Y.
Cahn, Anita Gella.....(Mhtn) New York City
Campbell, Elsa Patterson.....Kansas City, Mo.
Cheesman, Florence.....(Mhtn) New York City
Clark, Gertrude Helen.....(Mhtn) New York City
Cohen, Helen Louise.....(Mhtn) New York City
Coleman, Anna Aloysius Agnes.....Pelham Manor, N. Y.
Fitch, Ellice Heaton.....(Mhtn) New York City
Fry, Edna Louise.....(Bklyn) New York City
Groff, Mary.....Jersey City, N. J.
Gruening, Clara Emilia.....(Mhtn) New York City
Harrison, Mary Frederica.....(Bklyn) New York City
Herzfeld, Elsa Goldina.....(Mhtn) New York City
Hill, Edith.....(Mhtn) New York City
Hope, Ida May.....(Mhtn) New York City
Horn, Elizabeth.....East Orange, N. J.
Howard, Clare Maclellen.....(Mhtn) New York City
Johnson, May Amerman.....(Mhtn) New York City
Kaufmann, Jessie.....(Mhtn) New York City
King, Helen Louise.....(Mhtn) New York City
Kohn, Lucile.....(Mhtn) New York City
Kroeber, Elsbeth.....(Mhtn) New York City
Latham, Marian Elizabeth.....(Mhtn) New York City
Lewisohn, Adele Teresa.....(Mhtn) New York City
Lockwood, Hilda Le Grand.....(Mhtn) New York City
McAuliff, Grace.....(Mhtn) New York City
May, Eleanor Cushing.....(Mhtn) New York City
Miller, Jean Wallace.....(Mhtn) New York City
Moen, Mary Warren.....(Mhtn) New York City
Newton, Ethel Blanchard.....Montclair, N. J.
Nones, Sadie Floy.....(Mhtn) New York City
Pool, Ethel Manter.....(Mhtn) New York City
Poole, Katharine Ellen.....Faribault, Minn.
Rauh, Florence Ethel.....(Mhtn) New York City
Robinson, Amelia Maude.....Saville, L. I.
Rogers, Helen Miles.....Fond du Lac, Wis.
Seguine, Laura Randolph.....(R) New York City
Shainwald, May Seville(Mhtn) New York City
Sherman, Lucy Fidelia.....Peekskill, N. Y.
Siedler, Marguerite.....(Mhtn) New York City
Skinner, Madeleine Dayrell(Bklyn) New York City
Spencer, Carita.....(Q) New York City

Stern, Irma Regina (Mhtn) New York City
Straus, Mildred Caroline (Mhtn) New York City
Thompson, Bessie Ilsley (Bklyn) New York City
Toscano, Louise Josephine Colvin (Q) New York City
Van Cise, Laura Knowles Summit, N. J.
Wallach, Adele Nettie (Mhtn) New York City
Walters, Elizabeth Roe (Q) New York City
Ware, Anna Goodwin (Mhtn) New York City
Wilcox, Ethel Dodge New Rochelle, N. Y.

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SUMMARY

Graduate Students	73	
Special Students	18	
Music Students	38	
Senior Class	39	
Junior Class	40	
Sophomore Class	37	
Freshman Class	54	
		299
STUDENTS FROM TEACHERS COLLEGE (not candidates for the degrees of A.B., A.M., or Ph.D.)		24
Total		323

TEACHERS COLLEGE

TRUSTEES

SPENCER TRASK, *Chairman*

NEWBOLD MORRIS, *Secretary*

MISS GRACE H. DODGE, *Treasurer*

WILLIAM F. BRIDGE
MRS. PETER M. BRYSON
GEORGE W. VANDERBILT
REV. DAVID H. GREER, D.D.
WILLIAM GREENOUGH
PETER B. OLNEY
SETH LOW, LL.D.
V. EVERIT MACY
WILLIAM G. ROCKEFELLER
B. TALBOT B. HYDE
JOSEPH MILBANK
WILLIAM BARCLAY PARSONS
WILLIAM M. SLOANE, Ph.D., L.H.D.
CHARLES W. HARKNESS

Officers of Administration

SETH LOW, LL.D.,
President of the University
JAMES EARL RUSSELL, Ph.D.,
Dean
VIRGIL PRETTYMAN, A.M.,
Principal of the Horace Mann School
JOHN FRANCIS WOODHULL, Ph.D.,
Professor in Charge of Buildings and Grounds
WALTER H. NICHOLS, B.S.,
Secretary
LUCETTA DANIELL,
Registrar
ELIZABETH G. BALDWIN,
Librarian
MARY C. BRUSH,
Assistant Registrar
ISABELLE L. PRATT,
Secretary to the Dean
GUSTAV VIEHL,
College Organist
CAROLINE E. CABOT, M.D.,
Examining Physician
JOHN PERRY SEWARD, M.D.,
Examining Physician

REPRESENTATIVES IN UNIVERSITY COUNCIL

JAMES EARL RUSSELL, Ph.D., *ex-officio*
JOHN FRANCIS WOODHULL, Ph.D. (*term expires* 1902).

The Faculty

SETH LOW, LL.D.

JAMES EARL RUSSELL, Ph.D., *Dean and Professor of the History of Education*
NICHOLAS MURRAY BUTLER, Ph.D., LL.D., *Professor of Philosophy and Education*
FRANK MORTON MCMURRY, Ph.D., *Professor of the Theory and Practice of Teaching*
JAMES MCKEEN CATTELL, Ph.D. *Professor of Psychology*
JOHN FRANCIS WOODHULL, Ph.D. *Professor of Physical Science*
FRANKLIN THOMAS BAKER, A.M. *Professor of English Language and Literature*
EDWARD HOWARD CASTLE, A.M. *Professor of History*
RICHARD ELWOOD DODGE, A.M. *Professor of Geography*
HELEN KINNE *Professor of Domestic Science*
MARY DUNCAN RUNYAN *Professor of Kindergarten*
ALFRED VANCE CHURCHILL, A.M. *Professor of Art*
CHARLES RUSSELL RICHARDS, B.S. *Professor of Manual Training*
VIRGIL PRETTYMAN, A.M. *Principal of the Horace Mann School*
FREDERICK REMSEN HUTTON, Ph.D. *Professor of Mechanical Engineering*

GENERAL STATEMENT

Teachers College, founded in 1888 and chartered by the Regents of the University of the State of New York on January 12, 1889, became, by an agreement dated March 22, 1898, a part of the educational system of Columbia University. The President of Columbia University is President, *ex-officio*, of Teachers College, and the College is represented upon the University Council by the Dean and an elected representative of its Faculty. The university professors of philosophy and education and of psychology are members of the Faculty of Teachers College, and the College professors of the history of education and of the theory and practice of teaching have seats in the Faculty of Philosophy and the professor of Manual Training a seat in the Faculty of Applied Science.

Teachers College maintains its separate corporate organization, and its Board of Trustees continue to assume the entire financial responsibility for its maintenance.

Teachers College is the professional school of Columbia University for the study of education and the training of teachers. It takes academic rank with the Schools of Law, Medicine, and Applied Science. The purpose of Teachers College is to afford opportunity, both theoretical and practical, for the training of teachers of both sexes for elementary and secondary schools, of specialists in various branches of school work, and of principals, supervisors, and superintendents of schools.

The following courses of study are offered by Teachers College: —

1. Four-year courses leading to diplomas for teaching in the kindergarten or in the elementary schools. *Prerequisite :* Graduation from a good high school, or evidence of an equivalent academic training.

2. Two-year courses leading to diplomas for teaching in Fine Arts, Domestic Art, Domestic Science, and Manual Training. *Prerequisite :* Candidates must be experienced teachers or persons of mature age with special qualifications for undertaking the work who have a satisfactory secondary education. Students with the requisite academic training, but lacking maturity and teaching experience, are required to pursue an introductory course of one or two years, designed to meet their individual needs.

3. A one-year course leading to a diploma for teaching certain specified subjects in secondary schools. *Prerequisite :* The bachelor's degree, with proper qualifications in subject matter.

4. A graduate course (minimum residence, one year) leading to a Higher Diploma : *Prerequisite :* Graduation from an approved institution of learning, —a college, engineering school or normal school, or the equivalent of one of these ; presentation of satisfactory evidence of a high degree of professional ability, as a result of teaching experience or the study of education ; and the ability to undertake research and investigation.

The course of study for intending teachers in secondary schools is so arranged that undergraduate students of Columbia College and of Barnard College, and students from other colleges who are prepared to enter the senior class of either of these colleges, may, if they so desire, obtain the diploma of Teachers College at the time of receiving the degree of Bachelor of Arts. Certain courses in Teachers College, including all those in the department of Education, may be counted in partial fulfilment of the requirements for the degrees of Master of Arts and Doctor of Philosophy. Graduate students of Teachers College who conform to the general regulations of the University Council may thus pursue at the same time courses leading to a diploma and a higher degree.

The Horace Mann School, fully equipped with kindergarten, elementary, and secondary classes, is maintained by Teachers College as a school of observation and demonstration. It offers unexcelled advantages for the investigation of educational problems and for the study of the practical work of teaching.

BUILDINGS AND EQUIPMENT

The buildings of Teachers College and of the Horace Mann School are situated on West 120th and 121st Streets, between Amsterdam Avenue and Broadway, directly opposite the northern boundary of the University grounds.

The Macy Manual Arts Building is thoroughly equipped for the departments of Manual Training and Art Education. All other departments of the College and of the Horace Mann School, including the Bryson Library of some 13,000 volumes, the chapel, and the gymnasium are located in the Milbank Memorial Building and in the Main Building.

REGISTER OF STUDENTS

Candidates for a Higher Diploma

Abbott, Mary.....(Mhtn) New York City
New York Normal College, 1878.
Education.

* Ackerman, William Alfred.....Ackermanville, Pa.
Lafayette College, A.B., 1894; A.M., 1897.
Education, Philosophy and Anthropology.

Allen, Edith De Lancey.....Geneva, N. Y.
Teachers College, 1898.
Education.

Allen, William Cremer.....(Mhtn) New York City
College of the City of New York, B.S., 1895.
Education.

Appel, Frank John.....(Mhtn) New York City
German-American Teachers Seminary, 1896.
Education.

Barrett, Alice Irene.....(Bklyn) New York City
Teachers College, 1896.
Biology and Education.

Bass, Bertha.....Providence, R. I.
Wesleyan University, A.B., 1886; A.M., 1889.
Education.

† Beardsley, Lewis Aurelius.....Ithaca, N. Y.
Cornell University, A.B., 1888.
Education, Geography and Psychology.

† Beckhardt, Moses.....(Mhtn) New York City
College of the City of New York, B.S., 1895.
Education and Hebrew.

Belcher, Maud.....(Bklyn) New York City
Pratt Institute, Brooklyn, N. Y., 1890–1891.
Domestic Science and Education.

Beller, Wilhelmina Catherine.....(Mhtn) New York City
New York Normal College, 1881.
Education.

Blood, Anna Prentice.....Pepperell, Mass.
State Normal School, Salem, Mass., 1881.
Education and Geography.

* Also a candidate for the Ph.D. degree. † Also a candidate for the A.M. degree.

Bodler, John William Walton.....(Mhtn) New York City
State Normal School, Mansfield, Pa., M.E., 1890.
Lafayette College, Ph.B., 1896.
Buffalo Teachers College, 1897–1898.
Education.

Bolduan, Charlotte Emilie.....(Bklyn) New York City
Education.

* Boughton, Willis.....(Bklyn) New York City
University of Michigan, A.B., 1881.
Dickinson College, A.M., 1891.
Education.

Carman, Emma Kate.....Mattoon, Ill.
Education and Psychology.

* Chamberlain, William Isaac.....Vellore, India
Rutgers College, A. B., 1882; A.M., 1886.
Education and Philosophy.

‡ Chandor, Valentine Laura.....Plainfield, N. J.
Teachers College, 1899.
Barnard College, Senior Class.
Education and Mathematics.

* Clark, Adelbert Thomas Selden.....Kelly, New Mexico
Union University, C.E., 1876; A.B., 1877; A.M., 1879.
Education.

Clark, Thomas M.....(Mhtn) New York City
St. Francis Xavier University, A.B., 1883; A.M., 1886; LL.B., 1893.
Education.

Cohen, Emily Phillips.....(Mhtn) New York City
New York Normal College, 1885.
Education.

Convoy, Francis Michael.....(Mhtn) New York City
College of St. Francis Xavier, A.B., 1885.
Education.

* Deahl, Jasper Newton.....Grafton, W. Va.
University of Nashville, A.B., 1889.
Harvard University, A.B., 1893.
Columbia University, A.M., 1899; Teachers College, Higher Diploma, 1899.

Ezekiels, Jeannette.....(Mhtn) New York City
Teachers College, 1898.
Education.

Farrell, Elizabeth.....Auburn, N. Y.
State Normal School, Oswego, N. Y., 1895.
Education and Geography.

Farrington, Frederic Ernest.....(Mhtn) New York City
Harvard University, A.B., 1894.
Education.

† Garritt, Albert Warner.....(Mhtn) New York City
College of the City of New York, B.S., 1890.
Education.

* Also a candidate for the Ph.D. degree. † Also a candidate for the A.M. degree.
‡ Also a candidate for the A.B. degree.

Garrity, Anna Ringwood.....Chatham, N. Y
State Normal College, Albany, N. Y., 1899.
Education.

Goadby, Arthur M.....(Mhtn) New York City
Harvard University, 1885–1886.
Education, Psychology and English.

Hallock, Charles Wood Sitzer.....Hibernia, N. Y.
State Normal College, Albany, N. Y., 1888.
Physics, Education and Chemistry.

Harris, Elizabeth Sarah.....(Mhtn) New York City
New York Normal College, 1884.
Education.

Haviland, Emma Cotheal.....(Mhtn) New York City
New York Normal College, 1878.
Education.

Hendrickson, Caroline.....Bridgeport, Conn.
State Normal School, Oswego, N. Y., 1894.
Education and Biology.

Hildreth, Helen Rebecca.....Lockport, N. Y.
State Normal School, Winona, Minn., 1893.
Teachers College, 1899.
Education, Biology and History.

Hollis, Ida Minerva.....Hornellsville, N. Y.
Education, History and English.

* Hubbell, George Allen.....Yellow Springs, O.
Antioch College, B.S., 1890; A.M., 1891.
Education and Anthropology.

* Jackson, Alice Rebecca.....(Mhtn) New York City
Wellesley College, B.S., 1891.
English, Literature, Education.

† Jackson, Joseph Perry.....Boston, Mass.
Oskaloosa College, A.B., 1877; A.M., 1880.
Iowa State University, LL.B., 1879.
Education and Psychology.

Jennings, Gould James.....Prince Bay, N. Y.
State Normal College, Albany, N. Y., 1888.
Education.

Johnson, Euphemia.....Middletown, Conn.
Radcliffe College, 1891–1893.
Education, English and History.

Jones, Mary Phillippa.....Florence, Ala.
Alabama State Normal School, 1878.
Cook County Normal School, Chicago, Ill., 1890.
Education, Biology and Geography.

† Jones, Ralph W.....Indianapolis, Ind.
Indiana University, A.B., 1888.
Indiana State Normal School, 1895.
Education and Geography.

* Also a candidate for the Ph.D. degree. † Also a candidate for the A.M. degree.

Kahn, Arabella.....(Mhtn) New York City
New York Normal College, 1885.
Education.

Kauffmann, Emma Josie.....(Mhtn) New York City
New York Normal College, 1875–1878.
Education.

Kirchwey, Clara Barbara.....(Mhtn) New York City
Albany Training School, 1887.
Geography, Biology and Education.

† Knox, Thomas Harry.....(Mhtn) New York City
College of the City of New York, B.S., 1888.
Education.

* Luckey, George W. A.....Lincoln, Neb.
Leland Stanford Jr. University, A.B., 1894.
Clark University, 1894–1895.
Education and Psychology.

Luddington, Harriet Adelaide.. New Haven, Conn.
State Normal School, Westfield, Mass., 1881.
Cook County Normal School, Chicago, Ill., 1889.
Geography and Education.

* Ludwig, Henry, Jr.....(Mhtn) New York City
College of the City of New York, B.S., 1889.
New York University, A.M., 1898.
Education.

McAleer, Mary Frances.....(Mhtn) New York City
New York Normal College, 1885.
Education.

McDowell, Laura Eloise.....(Q) New York City
State Normal College, Albany, N.Y., 1897.
Education.

Magill, Rosa Elizabeth.....(Mhtn) New York City
Iowa State Normal School, B.D., 1893.
Education.

* Maxwell, Guy Everett St. Paul, Minn.
Hamline University, A.B., 1893.
Columbia University, A.M., 1899.
Teachers College, Higher Diploma, 1899.

* Meek, Edward Duncan Glencoe, O.
Obio State University, A.B., 1896; A.M., 1899.
Education and Psychology.

* Mertz, David Franklin Owosso, Mich.
University of Michigan, Ph.B., 1895.
Education, Philosophy and History.

† Meyer, John L..... Annville, Pa.
Lebanon Valley College, A.B., 1893.
Education and Geography.

Mitchell, Julia Rebecca.....Hoboken, N. J.
State Normal School, Potsdam, N. Y., 1896.
Education.

* Also a candidate for the Ph.D. degree. † Also a candidate for the A.M. degree.

† O'Grady, Caroline Geraldine.....(Mhtn) New York City
Toronto Normal School, 1893.
University of Pennsylvania, 1897–1899.
Education and Psychology.

Phillipson, Paul Herrman(Mhtn) New York City
Education.

* Pilgrim, Yancy Calhoun.....Phillipsburg, N. J.
Lafayette College, Ph.B., 1889; M.S., 1892.
Education.

Rafferty, William B.....(R) New York City
St. Lawrence University, A.B., 1890.
Education and History.

* Ray, Martin H.....(Mhtn) New York City
College of the City of New York, A.B., 1867; A.M., 1870.
Education.

† Reilly, Bryan Joseph.....(Bklyn) New York City
College of St. Francis Xavier, Ph.B., 1877.
Education.

† Reynolds, James Joseph.....(Br) New York City
College of the City of New York, B.S., 1893.
New York University, LL.B., 1896.
Education.

Schiller, Bianca.....(Q) New York City
State Normal School, Oswego, N. Y., 1895.
Education.

Silberberg, Betty.(Mhtn) New York City
German and Education.

* Smith, Frank Webster.....Lincoln, Mass.
Harvard College, A.B., 1877; A.M., 1882.
Education and Latin.

† Stauffer, Amos Frank. Lewisburg, Pa.
Central State Normal School, Pa., B.E., 1884; M.E., 1886.
Lafayette College, A.B., 1891; A.M., 1894.
Education and Psychology.

Tucker, Louise Emery(Bklyn) New York City
Education.

Vail, Mary Beals.....St. Paul, Minn.
Hellmuth College, 1879.
Pratt Institute, Brooklyn, N. Y., 1895.
Domestic Science and Education.

Webb, Eliza Horton.....(Mhtn) New York City
State Normal School, San Francisco, Cal., 1890.
Education and English.

Work, John Cree Telford.....Greeley, Col.
State Normal School, Indiana, Pa., B.E., 1890; M.E., 1892.
Manual Training and Education.

* Also a candidate for the Ph.D. degree. † Also a candidate for the A.M. degree.

Candidates for a Secondary Diploma

† Acheson, Nancy Semple.....Pittsburg, Pa.
Pennsylvania College, B.L., 1898.
English and History.

‡ Bennett, Agnes Leonard.....Hackensack, N. J.
Barnard College, Senior Class.
History and Mathematics.

† Bogart, Sarah Helen.....(Mhtn) New York City
Wellesley College, B.A., 1899.
Latin and Greek.

† Bracken, Mary Frances.....Pittsburg, Pa.
Pittsburg Female College, A.B., 1892.
Mathematics.

† Brickelmaier, Alice Gertrude.....(Bklyn) New York City
Cornell University, B.S., 1899.
Mathematics and German.

‡ Bryant, Elizabeth Eggleston.....Gilbertsville, N. Y.
Teachers College, 1894–1895.
Barnard College, Senior Class.
Latin.

Coyle, Georgiana D.....Bridgeton, N. J.
Smith College, B.L., 1898.
Education.

† Dudley, Mary Josephine.....Watertown, N. Y.
University of Kansas, A.B., 1897; A.M., 1898.
History and English.

† Gerken, Walter Diedrich.....Jersey City, N. J.
Cornell University, B.S., 1899.
History and English.

Gilbert, Lucia Fessenden.....Malone, N. Y.
Smith College, B.L., 1897.
English and Latin.

‡ Goldsborough, Mary Loockerman.....Easton, Md.
Barnard College, Senior Class.
Biology.

† Hewins, Nellie Priscilla.....(Q) New York City
Cornell University, B.S., 1898.
Biology.

‡ Hubbard, Mildred.....Winchester, Ill.
Mt. Holyoke College, 1889–1892.
University of Chicago, 1893–1894.
Barnard College, Senior Class.
English and History.

‡ Hutchinson, Florence.....So. Orange, N. J.
Barnard College, Senior Class.
German and Mathematics.

† Also a candidate for the A.M. degree. ‡ Also a candidate for the A.B. degree.

‡ Keagey, Esther.....Buffalo, N. Y.
Barnard College, Senior Class.
English and History.

‡ Kyte, Florence Leslie.....Fanwood, N. J.
Barnard College, Senior Class.
Biology.

Lemcke, Ernst Gustav.....Orange, N. J.
Columbia University, A.B., 1898.
History.

† Miller, Ernest Allan.....Ithaca, N. Y.
Cornell University, B.S., 1899.
Physics and Mathematics.

Palmer, Leila Madge.....(Bklyn) New York City
Smith College, A.B., 1899.
Greek and Latin.

Perry, William Comstock.....Bedford Station, N. Y.
University of Vermont, B.S., 1898.
Mathematics and Physics.

Reed, Emma Louisa.....(Mhtn) New York City
Wesleyan University, Ph.B., 1899.
History and English.

‡ Sandford, Emma Dusinberre.....Geneva, N. Y.
Barnard College, Senior Class.
English.

‡ Scott, Cora Arnot.....(Mhtn) New York City
Barnard College, Senior Class.
Mathematics and Physics.

Stevens, Mary Ellen.....Hiram, O.
Hiram College, B.S., 1889.
History and English.

‡ Van Horne, Katharine.....Jersey City, N. J.
Barnard College, Senior Class.
Biology.

Way, Charlotte M.....Atlantic City, N. J.
Swarthmore College, B.S., 1888.
Leland Stanford Jr. University, A.B., 1894.
University of Pennsylvania, 1894–1895.
Mathematics and Physics.

† Wilbur, Herbert Lemuel.....Easton, Mass.
Amherst College, A.B., 1892.
Education, Psychology, and Latin.

Wingfield, Henrietta Biscoe.....Montclair, N. J.
Latin.

Wohlfarth, Amelia.....(Mhtn) New York City
Columbia University, A.B., 1899.
German.

‡ Wurzburger, Julie.....(Mhtn) New York City
Barnard College, Senior Class.
English.

† Also a candidate for the A.M. degree. ‡ Also a candidate for the A.B. degree.

Candidates for the Elementary Diploma

In the following lists the class to which each student belongs is indicated by the figure in parentheses following the name, the Arabic numbers indicating the four-year courses, and the Roman numerals the two-year courses.

Atwood, Theodora (3).....Geneva, N. Y.
Baer, Dena (3).....(Mhtn) New York City
Baker, Helen Julia (1).....(Mhtn) New York City
Ball, Marion Elizabeth Pruyn (1).....(Mhtn) New York City
Barnes, Henrietta Julia (3).....Duluth, Minn.
State Normal School, St. Cloud, Minn., 1887.

Bennet, Sarah (2).....(Bklyn) New York City
Bertholf, Katherine Iliff (1).....Nyack, N. Y.
Berwald, Elizabeth Sophie (3).....Bradford, Pa.
Blake, Marion (2).....Jersey City, N. J.
Bowman, Leota (1).....Dayton, O.
Bridgart, Lillian Josephine (1).....Jersey City, N. J.
Brown, Sarah Jennie (1).....(Bklyn) New York City
Bussell, Richard John (1).....(Mhtn) New York City
Carhart, Elizabeth Merle (3).....Peekskill, N. Y.
Chapman, Eldora Lyman (1).....(Mhtn) New York City
Clark, Ada Ranney (3).....Cresskill, N. Y.
Closs, Rachel Evaline (1).....Rose, N. J.
Cole, Blanche Lillian (3).....(Mhtn) New York City
Collyer, Lillian Cecelia (3).....(Q) New York City
Combes, Phœbe Anna (1).....(Q) New York City
Cooke, Louise Janet (3).....(Q) New York City
State Normal School, Oswego, N. Y., 1898.

Cooper, Mary Adelaide (3).....(Mhtn) New York City
New York Normal College, 1895.

Corson, Grace Edith (2).....Detroit, Mich.
Coursen, Claire Fairchild (2).....Newton, N. J.
Curtiss, Elizabeth (3).....(Mhtn) New York City
State Normal School, Geneseo, N. Y., 1896.

Dodd, Matilda Gordon (1).....Newark, N. J.
Duffy, Lillian Roberts (1).....Hartford, Conn.
Elliot, Ernest Harry (3).....(Bklyn) New York City
University of Minnesota, 1896–1898.

Fielder, Louise (3).....(Mhtn) New York City
Flynn, Josephine Veronica (2).....(Bklyn) New York City
Fischer, Philip (2).....(Mhtn) New York City
Forrest, Gertrude (1).....(Bklyn) New York City
Frost, Laura Redington (3).....Meriden, Conn.
Gleason, Alice (3).....Haverhill, Mass.
Boston University, 1888–1889.

Gowans, Ethel (3).....Angola, N. Y.
State Normal School, Buffalo, N. Y., 1896.

Grant, Edith Torrey (2).....(Mhtn) New York City
Gray, L. Carmita (1).....Fort Plain, N. Y.
Halloway, Harriette Rice (1)..... Plainfield, N. J.
Haight, Janet Belle (3).(R) New York City
State Normal School, Cortland, N. Y., 1898.

Henderson, Marion Livingston (2).....(Mhtn) New York City
Hess, Mary Irene (2).....(Mhtn) New York City
Hoag, Orry Huested (3).....(Bklyn) New York City
State Normal School, Geneseo, N. Y., 1884.

Jackson, Adelaide Austen (3).....Salem, Mass.
Jacobia, Spencer Parkman (3).....(Mhtn) New York City
Jarvis, Ellen Anderson (1).....Brooklyn, Conn.
Jones, Frances Fahnestock (3).....Bethlehem, Pa.
Jones, Lulie (4).....Florence, Ala.
State Normal School, Florence, Ala., 1885.

Ketchum, Elvin Sydney (4).....Springfield, N. J.
King, Ida Jane (3).....(Bklyn) New York City
State Normal School, Oswego, N. Y., 1874–1876.

Kydd, Ida Elizabeth (1)(Mhtn) New York City
La Monte, Sue Life (4).....Oswego, N. Y.
Lenehan, Elizabeth (1).....(Mhtn) New York City
Leopold, Cora R. (2).....(Mhtn) New York City
Levens, Belle (3).....Albert Lea, Minn.
State Normal School, Mankato, Minn., 1885.

Lever, Lily Carlotta Yendell (3).....(Bklyn) New York City
London, Jeannette Fannie (1).....(Mhtn) New York City
MacLear, Anne Bush (3).....Wilmington, Del.
McCready, Margaret Alice (2).....(Mhtn) New York City
McKeighan, Elinor Matilda (1).....St. Louis, Mo.
McKinstry, Grace (4).....Fredonia, N. Y.
State Normal School, Fredonia, N. Y., 1890.

McLeod, Edith (3).....San Diego, Cal.
State Normal School, Bridgewater, Mass., 1871.

McMulkin, Martha Jane (3).....(Bklyn) New York City
Toronto Normal School, 1879.

McRae, Janet (3)..... Waco, Texas
Magalhaes, Helen Watterson (3).....(Bklyn) New York City
Mann, Nellie Lucina (3).(Bklyn) New York City
State Normal School, Geneseo, N. Y., 1890.

Mangam, Emily Coger (1).....(Bklyn) New York City
Marshal, Eva Samuels Rabinovitch (2).....Philadelphia, Pa.
State Normal School, Bloomsburg, Pa., 1898.

Mast, Josephine (3).....(Bklyn) New York City
New York Normal College, 1897.

Merrill, Susan Bliss (1).....Lexington, Mich.
Miller, Alice Etta (3).....Plainfield, N. J.
Nichols, Ellen Elizabeth (3).....(Bklyn) New York City

Norsworthy, Naomi (3).....Rutherford, N. J.
State Normal School, Trenton, N. J., 1896.

† O'Connor, Edward Francis (4).....(Mhtn) New York City

O'Geran, Annie Susan (3).....(Q) New York City
State Normal School, Oswego, N. Y., 1890.

Pelton, Edith Chester (1).....Hartford, Conn.

Plumb, Clara Charlotte (1).....Elizabeth, N. J.

Pollock, Rosalie (3).....Fargo, N. D.

Powers, Frances Mary (3).....(Mhtn) New York City

Prager, Gertrude Lillian (3).....(Mhtn) New York City
New York Normal College, 1891–1895.

Reid, Florence Elizabeth (1).....Jersey City, N. J.

Rooney, Kate Elizabeth (2).....(Q) New York City

Roovers, Edgar Walter (4).....(Bklyn) New York City
Harvard, A.B., 1899.

Shepherd, Frances Almira (3).....Denver, Colo.

Skinner, Ada M. (3).....Columbus, O.
State Normal School, Columbus, Ohio, 1889.

Smith, Caroline Harriet (3).....(Bklyn) New York City
State Normal School, Cortland, N. Y., 1897.

Staber, Maud Johanna (3).....(Bklyn) New York City

Staley, Jessie Edith (3).....Lansingburgh, N. Y.

Tattershall, Fanny (3).....White Haven, Pa.

Thompson, M. C. (3).....(Mhtn) New York City

Van Pelt, Sarah Elizabeth (3).....Morristown, N. J.

Vinson, Byrd (1).....(Mhtn) New York City

Wann, Mabel (1).....Bradford, Pa.

Ward, Ida (3).....(Bklyn) New York City
State Normal School, Oneonta, N. Y., 1892.

Waters, Annie Stout (4).....Peekskill, N. Y.
State Normal School, Oswego, N. Y., 1888.

Wettlin, Emma Louise (2).....Newark N. J.

White, Jessie Campbell (3).....Bradford, Pa.

Wilkinson, Louise (1).....Newburgh, N. Y.

Willis, Ora Amelia (2).....Solo, S. C.

Wright, Eva (3).....(Q) New York City
State Normal School, Oneonta, N. Y., 1896.

Wyant, Alice May (1).....Elizabeth, N. J.

Yudelson, Sophie (2).....(Mhtn) New York City

Candidates for the Kindergarten Diploma

Beegle, Mary Porter (1).....Ocean Grove, N. J.

Brush, Jane Wheeler (3).....Geneva, N. Y.

Clowes, Helen Coe (4).....Hempstead, N. Y.

Coles, Alice Belden (3).....Kingston, N. Y.
Vassar College, A.B., 1899.

† Also a candidate for the A.M. degree.

Holden, Frances (1).....(Bklyn) New York City
Hughes, May Evelyn (4).....(Mhtn) New York City
New York Normal College, 1897.
Alfred University, Ph.B., 1898.
Hunn, Jessie Sexton (2).....Elmira, N. Y.
Jenkins, Grace Elsie (1).....Mt. Vernon, N. Y.
Jones, Bessie Karen (1).....(Mhtn) New York City
Leavenworth, Elizabeth S. (3).....Passaic, N. J.
Lovell, Helen (1).....Plainfield, N. J.
Lyon, Elvira Nathan (4).....(Mhtn) New York City
Palmer, Florence Lila (3).....Tenafly, N. J.
Parsons, Belle (3).....Washington, D. C.
Wellesley College, 1896–1898.
Roberts, Helen E. (1).....Mt. Vernon, N. Y.
Sanford, May Thomas (1).....(Mhtn) New York City
Sherer, Genevieve (4).....(Mhtn) New York City
Tener, Elizabeth (2).....(Mhtn) New York City
West, Cheves (3).....Asheville, N. C.
State Normal School, N. C., 1897.
Wheeler, Mary Louise (4).....Montclair, N. J.
White, Charlotte (1).....Orange, N. J.
Wilcox, Bessie Throop (1).....Rochester, N. Y.
Williams, Bessie Potter (4).....(Bklyn) New York City
Worden, Alice Jane (3).....Paterson, N. J.
State Normal School, Paterson, N. J., 1899.

Candidates for the Domestic Art Diploma

Crooks, Nellie (II).....(Mhtn) New York City
Freed, Rose (I).....(Mhtn) New York City
Hilton, Jessie Mabel (I).....(Bklyn) New York City
Hopkins, Alice (II).....Buffalo, N. Y.
Kachline, Fannie E. (II).....Nazareth, Pa.
Noble, Helen Gray (I).....Jersey City Heights, N. J.
Palmer, Adelaide Root (I).....(Mhtn) New York City
Simmons, Annie Pendlebury (II).....Yonkers, N. Y.
Watson, Mary Urie (II).....Ayr, Ontario, Can.

Candidates for the Domestic Science Diploma

Bedell, Eva Gertrude (II).....New Baltimore, N. Y.
Clark, Matie Pearl (I).....Kelly, N. M.
Leland Stanford Jr. University, 1896–1898.
Dulon, Mabel Richards (I).....(Mhtn) New York City
Dummig, Carrie Josephine (I).....(Bklyn) New York City
State Normal School, Westchester, Pa., 1877.
Dutcher, Mary (1).....(Mhtn) New York City
Folger, Harriet (4).....Mantua, O.
Geer, Elene Ellsworth (I).....Hartford, Conn.

Hall, Fannie Lee (II).....Denver, Col.
Hyams, Sarah (I).....(Mhtn) New York City
New York Normal College, 1882–1884.
Jones, Grace Elizabeth (II).....Newark, N. J.
Joralemon, Belle Hedden (II).....Orange, N. J.
Kenvill, Margaret (I).....(Bklyn) New York City
McLaren, Grisell McFarlane (I).....Cleveland, O.
Mt. Holyoke College, A.B., 1898.
Mitchell, Ida Mae (II).....Bangor, Me.
Schmelz, Irma Helen (I).....(Mhtn) New York City
Strong, Eunice Eliza (I).....Colchester, Conn.
Tuttle, Gertrude (I).....Hornellsville, N. Y.
Vassar College, 1897–1899.
Tuttle, Mary Louisa (I).....Waterbury, Conn.
Vaughan, Marion Moulton (1).....(Q) New York City
White, Anna Margaret (II).....Woodstock, Ont.
Whittemore, Laura Brainard (II).....(Mhtn) New York City

Candidates for the Fine Arts Diploma

Bertholf, Ella Maria (II).....Englewood, N. J.
Teachers College, 1899.
Boone, Cheshire Lowton (II).....(Mhtn) New York City
State Normal School, Ypsilanti, Mich., 1893–94.
Michigan University, 1894–1896.
Colman, Charlotte Gorman (I).....(Mhtn) New York City
Comegys, Glennie Dexter (3).....Asbury Park, N. J.
Cooper, Ada Bessie (2).....Pittsfield, Mass.
Drennan, Eunice (II).....Decatur, Ill.
Foster, Ethel Elizabeth (I).....Washington, D. C.
Washington Normal School, 1893.
Garrabrant, Elizabeth Emma (4).....Newark, N. J.
Hallock, Anne D. (II).....Bridgeport, Conn.
Himes, Olive Rena (II).....Albany, N. Y.
Kooser, Mary Forward (I).....Somerset, Pa.
Meagher, Mary Melania (II).....Richmond, Va.
Virginia Normal College, 1892.
Meeks, Anna Morrell (I).....(Mhtn) New York City
Mitchell, Isa Mariam (II).....Jackson, Mich.
Mitchell, Maude Josephine (II).....Wabaunsee, Kan.
Nicholas, Phoebe Condit (I).....St. Paul, Minn.
Niles, Mary Irene (II).....Flushing, Mich.
Orr, F. J.....(Mhtn) New York City
Robertson, Jean Nicoll (I).....Paterson, N. J.
State Normal School, Paterson, N. J., 1899.
Stangland, Jessie Cary (2).....Morton, N. Y.
Taylor, Marguerite Henrietta (I).....Canastota, N. Y.

Thorburn-Artz, Lucretia Nash (II).....(Mhtn) New York City
Very, Edith (II).....Hartford, Conn.
Whittemore, Amy Pomeroy (I).....(Mhtn) New York City
Worth, Addie Josephine (I).....Geneva, N. Y.
Young, Elizabeth (II).....(Mhtn) New York City

Candidates for the Manual Training Diploma

Bacon, Louis Alex (I).....Elmira, N. Y.
Barlow, Helen Saunders (II).....(Mhtn) New York City
Barris, Bessie Lovering (II).....(Mhtn) New York City
Bayley, Joseph, Jr., (II).....East Orange, N. J.
Brundage, Howard Drake (II).....Newburgh, N. Y.
Carberry, Sarah Pearsall (I).....Westfield, N. J.
Dilworth, Margaret Benson (4).....Yonkers Park, N. Y.
†† Hammond, Anna Marie (II).....Geneva, N. Y.
†† House, Grace Bigelow (4).....Salonica, Turkey
Mendes, Maria Pereira (II).....(Mhtn) New York City
Messick, Turner Best (I).....Marietta, O.
Phoenix, John Lane (II).....Troy, Pa.
State Normal School, Oswego, N. Y., 1898.
Pierson, Elizabeth Bradford (2).....Orange, N. J.
Saam, Caroline Elsa (I).....Philadelphia, Pa.
Philadelphia Normal School, 1899.
†† Sanders, Florence Randolph (4).....New York
Sargent, William Amos (I).....Lynn, Mass.
Wilburn, Emma Pitman (I).....Griffin, Ga.
Georgia Normal and Industrial College, 1892.
Capital Female College, 1893.

Students not Candidates for a Diploma

SPECIAL STUDENTS

The courses pursued are indicated in brackets, abbreviated as follows:

(K.) Kindergarten
(D.A.) Domestic Art
(D.S.) Domestic Science
(F.A.) Fine Arts
(M.T.) Manual Training
(Ed.) Education
(B.) Biology
(E.) English
(G.) Geography
(H.) History
(M.) Mathematics

Alline, Anna Lowell (D.S.).....(Bklyn) New York City
Baghdassarian, Moses A. (E. and H.).....Armenia
Bartlett, Harriette Louise (D.S.).....Hanover, N. H.
Behrens, Sophia H. (F.A. and D. A.).....(Br) New York City
Bole, Sadie Mackenzie (K.).....(Mhtn) New York City

†† Also candidates for the Fine Arts Diploma.

Burns, Sophie Fanny (D.S.).....Bath, N. Y.
Campbell, Josephine (D.S.).....(Mhtn) New York City
Cohen, Clara (F.A.).....(Mhtn) New York City
Cohen, Gertrude Anita (F.A.).....(Mhtn) New York City
Cudlipp, Hattie Louise (B.).....(Br) New York City
Curtis, Anna Frances (F.A.).....(Mhtn) New York City
Daniell, Mary Eldred (D.A.).....Boston, Mass.
de Ligarde, Francis F. (Ed.).....(Br) New York City
Dubois, Emily Alexzina (F.A.).....(Mhtn) New York City
Eldridge, Bettie B. (F.A.).....(Mhtn) New York City
Elgin, Elizabeth May (F.A.).....(Mhtn) New York City
Elleau, Augustine Louise (E., H., and S.).....Newark, N. J.
Emerson, Julia Titus (S.).....(Mhtn) New York City
Fenn, Robert Willson (Ed.).....Sao Paulo, Brazil
Gausmann, Kate Stripple (F.A.).....Leonia, N. J.
Gill, Alice Mary (Ed. and Psy.).....Bath, New York
Goldsmith, Gertrude (F.A.).....(Mhtn) New York City
Gorman, Alice Amelia (D.S.).....(Mhtn) New York City
Griswold, Florence Kressler (E. and H.).....Bloomfield, N. J,
Hamlin, Julia Z. (K.).....Belleville, N. J.
Harcourt, Agnes (Ed., B., and E.).....Newburgh, N. Y.
Hawkins, Harriet (F.A.).....(Mhtn) New York City
Isaacs, Agnes (D.A.).....(Mhtn) New York City
Krueger, Elizabeth R. (K.).....(Mhtn) New York City
Lyles, Mary E. (Ed.).....(Q) New York City
Maynard, Louise (K.).....(Mhtn) New York City
McConnell, Leonora Tallman (D.A. and F.A.).....(Mhtn) New York City
McGrury, Emma Louisa (Ed.).....(Mhtn) New York City
Moorman, Jennie Pointer (F.A.).....Owensboro, Ky.
Pagani, Marie Josephine (E., H., and S.).....(Mhtn) New York City
Palmer, Luella Angelina (K.).....(Mhtn) New York City
Phelan, Natalie (F.A.).....Waterbury, Conn.
Pollok, Alice (F.A.).....(Mhtn) New York City
Pollok, Theodora (F.A. and H.).....(Mhtn) New York City
Potter, Marcia (F.A.).....Saginaw, Mich.
Souther, Cornelia Porter (D.A.).....Columbus, O.
Styles, Wilhemina Addie (D.A.).....New York
Sundberg, Anna Amida (M.T., F.A., and Ed.).....Newark, N. J.
Talcott, Margaret Livingston (S., M., and Psy.).....Utica, N. Y.
Taylor, Bertha (B.).....Jersey City, N. J.
White, Minnie (D.S.).....(Mhtn) New York City
Wiechman, Amy (Psy. and Soc.).....(Mhtn) New York City
Wilson, Albina de La Raine (D.A.).....East Northfield, Mass.
Wilson, Emmeline (M.T. and F.A.).....(Mhtn) New York City
Williamson, Josephine L. (F.A.).....Dobb's Ferry, N. Y.

SUMMARY

Candidates for Higher Diploma	72	
" " Secondary Diploma	30	
" " Elementary Diploma	101	
" " Kindergarten Diploma	24	
" " Domestic Art Diploma	9	
" " Domestic Science Diploma	21	
" " Fine Arts Diploma	26	
" " Manual Training Diploma	17	
		300
Special Students—not Candidates for a Diploma:		
Primarily registered in Teachers College		50
Students from under other Faculties in the University:		
From Columbia College	3	
" Barnard College	16	
" the Faculty of Philosophy	12	
" " " " Political Science	1	
		32
		382

PUPILS IN SCHOOLS

HORACE MANN:		
High School	222	
Elementary School	282	
Kindergarten	39	
		543
EXPERIMENTAL SCHOOL:		
First Grade	18	
Kindergarten	40	
		58
		601

Extension Students 470

SUMMER SESSION

ADMINISTRATIVE BOARD

Seth Low, LL.D.
President of the University

Nicholas Murray Butler, Ph.D., LL.D.
Professor of Philosophy and Education, Dean of the Faculty of Philosophy

James Earl Russell, Ph.D.
Professor of the History of Education, Dean of Teachers College

Nicholas Murray Butler, Ph.D., LL.D., *Director of the Summer Session*
Walter Hammond Nichols, B.S.....*Secretary of the Summer Session*

Faculty

Franklin Thomas Baker, A.M.....*English Language and Literature*
Nicholas Murray Butler, Ph.D., LL.D.....*Philosophy and Education*
George Rice Carpenter, A.B.....*Rhetoric and English Composition*
James McKeen Cattell, Ph.D.....*Psychology*
Richard Elwood Dodge, A.M.....*Geography*
William Hallock, Ph.D.....*Physics*
Abraham Valentine Williams Jackson, Ph.D., L.H.D.....*English*
Cassius Jackson Keyser, A.M.....*Mathematics*
Francis Ernest Lloyd, A.M.....*Botany*
Frank Morton McMurry, Ph.D.....*Theory and Practice of Teaching*
John Angus Mac Vannel, Ph.D.....*Philosophy and Education*
Paul Monroe, Ph.D.....*History*
George Clinton Densmore Odell, Ph.D.....*Rhetoric and English Composition*
Charles Russell Richards, B.S.....*Manual Training*
Watson Lewis Savage, M.D.....*Physical Training*
Edward Lee Thorndike, Ph.D.....*Psychology*

Other Instructors

Jessie Hubbell Bancroft.....*Physical Training*
Gustav Hermann Bojus.....*Physical Training*
Oswald Rudolf Eklöf.....*Manual Training*
Lida Brown McMurry.....*Elementary Teaching*
George Ruppert Seikel.....*Physical Training*
Amy Schüssler.....*Elementary Teaching*
Lucy Hess Weiser.....*Manual Training*

GENERAL STATEMENT

The first Summer Session of the University will open July 2, 1900, and close August 10. The registration days for the Summer Session will be July 2 and 3. Examinations for certificates will be held on August 9 and 10.

Courses will be offered in botany, education, English (including rhetoric and composition), geography, history, manual training, mathematics, philosophy, physical training, physics, and psychology.

Each course will consist of thirty lectures or other exercises, or their equivalent in laboratory or field work. Credit for such courses in the Summer Session as are accepted by the several Faculties of the University in partial fulfilment of the requirements for degrees or for teachers' diplomas, may only be claimed by those who sustain satisfactorily the examination at the conclusion of the course.

The tuition fee for the Summer Session will be $25, covering not to exceed three courses of instruction, chosen from among those offered in any two departments, which is the limit allowed by the regulations.

The usual matriculation fee of $5 will be charged to all students who join the University for the first time at the Summer Session. The Gymnasium fee of $5, including the use of the gymnasium, a private locker, and the privilege of the swimming pool, is required of all students who take the practice course in physical training, but is optional for all others.

The Summer Session will be open to men and women on equal terms. For the special announcement of the Summer Session, or for information regarding dormitory accommodations, or board and lodging, address Director of the Summer Session, Columbia University, New York.

PUBLICATIONS

Official Publications of Columbia University

The Annual Catalogue is issued in December of each year. It contains a full statement of the organization of the University, the courses offered during the current year, lists of officers and students, estimates of expenses, requirements for admission and degrees, and regulations governing the College and the various Schools of the University. Price, 25 cents. To be had on application to the Secretary of the University.

The Directory of Officers and Students is issued each year, as soon as possible after the opening of the University, and contains the names, office hours, and addresses of the officers of the University, and the names and addresses of the students registered up to the time of publication. It is revised and reprinted in the Catalogue.

The President's Annual Report to the Trustees is issued in November of each year.

The Announcements of the various Schools of the University are issued in the spring of each year, and contain information concerning admission, expenses, courses of instruction to be given during the coming year, and requirements for degrees. They include :

The Announcement of Columbia College, for the work leading to the degree of Bachelor of Arts ;

The Announcement of the School of Law, for the work leading to the degrees of Bachelor of Laws and Master of Laws ;

The Announcement of the College of Physicians and Surgeons, for the work leading to the degree of Doctor of Medicine ;

The Announcement of the School of Mines, School of Chemistry, School of Engineering, and School of Architecture, for the work leading to the degrees of Mining Engineer, Metallurgical Engineer, Bachelor of Science (in Chemistry), Civil Engineer, Electrical Engineer, Mechanical Engineer, and Bachelor of Science (in Architecture).

The Announcement of the Faculties of Political Science, Philosophy, and Pure Science, for all non-professional advanced work leading to the degrees of Master of Arts, Doctor of Philosophy, and Master of Laws.

These are distributed without charge upon application to the Secretary of Columbia University.

The Announcements of a number of Departments of the University are issued in the spring of each year, and contain full information concerning the work of the coming year in those departments. They include :

The Division of Classical Philology, comprising the Departments of Latin and of Greek ;

The Department of English ;

The Department of Comparative Literature ;

The Department of Germanic Languages and Literatures ;

The Department of Music ;

The Division of Oriental Languages, comprising the Departments of Semitic and Indo-Iranian Languages ;

The Division of Philosophy and Psychology, comprising the Departments of Philosophy and Education, and of Psychology and Anthropology ;

The Department of Romance Languages and Literatures.

These are distributed without charge upon application to the Secretary of Columbia University.

The General Catalogue of the Alumni is issued sextennially and contains the names and addresses of all the graduates of the University. The next edition will be issued in 1900. Price, $1.00. For sale at the University Bookstore.

The Announcement of Barnard College, a college for women in close affiliation with Columbia University, contains full information concerning admission, expenses, courses of instruction, and requirements for the degree of Bachelor of Arts. Distributed without charge upon application to the Dean of Barnard College.

The Announcement of Teachers College, a professional school for teachers and for the study of education, issued annually, contains full information concerning the institution ;

The President's Report, issued annually, contains the reports of the President and of the Dean for the year closing June 30th preceding ;

Teachers College also issues the following circulars :

The Circular of the Department of Manual Training.

The Circular of the Department of Domestic Science and Art ;

The Circular of the Department of Domestic Science, describing a course in hospital economics ;

The Circular of the Department of Fine Arts ;

The Circular of the Horace Mann School, a school fully equipped with kindergarten, elementary and secondary classes, maintained by Teachers College as a School of Observation and Practice.

These may be obtained without charge upon application to the Secretary of Teachers College.

The Columbia University Press

The Columbia University Press was organized with the approval of the Trustees of Columbia College, and incorporated June 8, 1893, for the purpose of promoting and encouraging the publication of literary works embodying the results of original research and investigation. The Press is a private corporation, related directly to Columbia University by the provisions that its Trustees must always be members of the teaching staff and that the President of Columbia University shall be the President of the Columbia University Press.

Trustees

THE PRESIDENT OF THE UNIVERSITY (*ex-officio*)
GEORGE R. CARPENTER (1900)
RICHMOND MAYO-SMITH (1900)
T. MITCHELL PRUDDEN (1900)
FRANCIS B. CROCKER (1901)
HENRY FAIRFIELD OSBORN (1901)
HARRY THURSTON PECK (1901)
NICHOLAS MURRAY BUTLER (1902), *Secretary*
BRANDER MATTHEWS (1902)
JOHN B. PINE (1902), *Treasurer*

NOTE — The dates after the names indicate the expiration of the terms of office.

The Press, through The Macmillan Co., of New York and London, its publishing agents, has issued the following publications:

1894

1. Classical Studies in Honor of Henry Drisler. By 18 of his pupils. (8vo, 310 pages, $4.)

1895

2. Municipal Home Rule. By Frank J. Goodnow, A.M., LL.D., Professor of Administrative Law in Columbia University. (12mo, 238 pages, $1.50.)
3. Atlas of the Fertilization and Karyokinesis of the Ovum. By Edmund B. Wilson, Ph.D., Professor of Invertebrate Zoölogy in Columbia University. (4to, 32 pages, with 10 photographic plates and numerous diagrams, $4.)
4. Statistics and Sociology. By Richmond Mayo-Smith, Ph.D., Professor of Political Economy and Social Science in Columbia University. (8vo, 339 pages, $3.)

1896

5. An Atlas of Nerve Cells. By Moses Allen Starr, M.D., Professor of Diseases of the Mind and Nervous System in Columbia University. (4to, 88 pages, with 52 plates and 8 figures, $10.)
6. Memoirs of Frederick A. P. Barnard, D.C.L., 10th President of Columbia College. By John Fulton. (8vo, 485 pages, $4.)
7. Principles of Sociology. By Franklin H. Giddings, Professor of Sociology in Columbia University. (8vo, 476 pages, $3.)
8. The Cell in Development and Inheritance. By Edmund B. Wilson, Ph.D., Professor of Invertebrate Zoölogy in Columbia University. (8vo, 372 pages, $3.50.)

1897

9. Municipal Problems. By Frank J. Goodnow, A.M., LL.D., Professor of Administrative Law. (12mo, 334 pages, $1.50.)
10. Battle of Harlem Heights. By Henry P. Johnston, Professor of History in the College of the City of New York. (12mo, 236 pages, with maps, $2.)

1898

11. Bismarck and German Unity. By Munroe Smith, A.M., J.U.D., Professor of Roman Law and Comparative Jurisprudence in Columbia University. (12mo, 100 pages, $1.)
12. Zoroaster. By A. V. Williams Jackson, L.H.D., Ph.D., Professor of Indo-Iranian Languages in Columbia University. (8vo, 312 pages, $3.)

1899

13. Foundations of Zoölogy. By William K. Brooks, Ph.D., Professor of Zoölogy in Johns Hopkins University. (8vo, 339 pages, $2.50.)
14. Ægidio Colonna's *Gouvernement des Rois*. By Samuel Paul Molenaer, Ph.D., Instructor in Romance Languages in the University of Pennsylvania. (8vo, 461 pages, $3.)
15. The Shifting and Incidence of Taxation. By Edwin R. A. Seligman, Ph.D., Professor of Political Economy and Finance in Columbia University. (8vo, 337 pages, $3.)
16. Government of Municipalities. By Dorman B. Eaton, LL.D., of New York. (8vo, 516 pages, $4.)
17. Statistics and Economics. By Richmond Mayo-Smith, Ph.D., Professor of Political Economy and Social Science in Columbia University. (8vo, 468 pages, $3.)
18. Literary Criticism in the Renaissance. By Joel Elias Spingarn, Ph.D., Assistant in Literature in Columbia University. (12mo, 330 pages, $1.50.)
19. Romances of Roguery, Part I. By Frank Wadleigh Chandler, Ph.D., Instructor in Literature, Polytechnic Institute, Brooklyn, N. Y. (12mo, 482 pages, $2.)
20. Spanish Literature in the England of the Tudors. By John Garrett Underhill, Assistant in Literature in Columbia University. (12mo, 438 pages, $2.)
21. Francis Lieber: His Life and Political Philosophy. By Lewis R. Harley, Ph.D., Instructor in the Central High School, Philadelphia, Pa. (8vo, 214 pages, $1.75.)

Columbia University Quarterly

The University Quarterly is published by the Columbia University Press, with the approval of the Trustees of the University, in December, March, June and September of each year. It is edited by an Editorial Committee composed of a representative from each of the Faculties of the University. The Chairman of this Committee for 1900 is Professor Calvin Thomas.

The purpose of the Quarterly is to inform the alumni, officers, and friends of the University of its contemporary history and progress. Each number contains articles on topics that concern the University as a whole, and also detailed information regarding a selected group of departments or schools. The subscription rate is $1 a year.

Serial Studies and Contributions issued from the University

Botany, Contributions from the Department of.—Founded in 1886; devoted to short papers; managing editor, L. M. Underwood; published by the editor, from Columbia University; issued irregularly, but usually one volume a year; price, per volume (about 330 pages and about 30 plates), $5.00.

Botany, Memoirs of the Department of.—Founded in 1895; devoted to longer monographs; managing editor, L. M. Underwood; published by the editor, from Columbia University; issued irregularly, list on application.

Electrical Engineering, Contributions from the Department of.—Founded in 1889; devoted to papers by officers and students; managing editor, F. B. Crocker; published (in reprint) by the editor, from Columbia University; issued irregularly; prices on application.

Geological Department, Contributions from the.—Founded in 1892; includes short contributions and longer monographs; managing editor, J. F. Kemp; published (partly original, partly in reprint) by the editor, from Columbia University; issued irregularly; prices on application.

Germanic Subjects, Studies on.—Founded in 1899; contain results of original research in Germanic languages and literatures; editors, W. H. Carpenter and Calvin Thomas; published by The Macmillan Co., New York; issued irregularly; price, No. 1, 50 c.

History, Economics and Public Law, Studies in.—Founded in 1891; contain results of original research by students in the School of Political Science; managing editor, E. R. A. Seligman; published by The Macmillan Co., New York; issued one volume or more yearly; price, per volume, $3 to $4.50.

Mineralogy, Contributions from the Department of.—Founded in 1892; contains articles and text-books by officers and students; managing editor, A. J. Moses; published by the editor, from Columbia University; issued irregularly (often in reprint); usually not sold.

Observatory, Contributions from the.—Founded in 1892; devoted to original research; managing editor, J. K. Rees; published by the editor, from Columbia University; issued irregularly; usually not sold.

Pathology, Studies from the Department of.—Founded in 1890; records results of research in the Department; managing editor, T. M. Prudden; on sale by J. T. Dougherty, New York; issued irregularly; price, per volume (about 175 pages), $1.00.

Philosophy, Psychology, and Education, Contributions to.—Founded in 1894; contain results of research of officers and students of Division of Philosophy and Psychology; managing editor, Nicholas Murray Butler; published by The Macmillan Co., New York; issued irregularly, price, per volume (about 425 pages), averages $3.00.

Physiology, Studies from the Department of.—Edited by John G. Curtis, M.D., and Frederic S. Lee, Ph.D., College of Physicians and Surgeons, Columbia University. Three volumes in preparation. Further information to be had of the editors.

NOTE.—A list of publications for each academic year is published in the September number of the *University Quarterly*.

Journals

Issued under the entire direction of officers of Columbia University:

Bulletin of the Torrey Botanical Club. Devoted to scientific botany in its widest sense. Editor: Lucien M. Underwood. Assistant Editors: C. C. Curtis, B. D. Halsted, Arthur Hollick, M. A. Howe, Francis E. Lloyd, and Anna M. Vail. Monthly, 20c.; per year (about 600 pp., with 30 plates), $2.00.

Educational Review. Devoted to the study of education in all its forms, containing articles, discussions, book reviews, foreign correspondence, and editorial review of current events. Edited by Nicholas Murray Butler. New York: Educational Review Publishing Co. Monthly (except July and August), 104 pp.; per year, $3.00; foreign, $3.60.

Journal of School Geography. Devoted to the interests of the common-school teacher of geography. Edited by R. E. Dodge. Published by the J. W. Hammett Co., New York. Monthly (except in July and August), 15c.; per year, $1.00.

Political Science Quarterly. Devoted to the study of politics, economics, and public law. Publishes annually about 25 leading articles, especially on questions of current interest, and about 130 reviews and gives a condensed general record of political events. Edited by the Faculty of Political Science. Boston and New York: Ginn & Co. Quarterly (about 190 pp.), 75c.; per year, $3.00.

School of Mines Quarterly. Official organ of the Alumni Association of the Schools of Science of Columbia University. Devoted to the publication of original papers on engineering, metallurgy, chemistry, architecture, mineralogy, and geology. Managing Editor: R. E. Mayer. Published by the Editors. $1.00 a year.

Teachers College Record. Devoted to the practical educational problems of the Teachers College of Columbia University. Edited by J. E. Russell. New York: The Columbia University Press. Monthly (about 24 pp.), 15c.; per year, $1.00.

Issued under the partial direction of officers of Columbia University:

Americana Germanica. Devoted to the comparative study of the literary, linguistic, and other cultural relations of Germany and America. Contains original researches, critical articles, and reviews. Editor: M. D. Learned (Univ. of Penn.). Contributing Editors: Wm. H. Carpenter (Columbia), Calvin Thomas (Columbia), and others. New York: The Macmillan Co. Quarterly (about 112 pp.), 75c.; per year, $2.00.

American Anthropologist. Containing original contributions and reviews on anthropology. Edited by a Board, including Franz Boas. New York: G. P. Putnam's Sons. Quarterly, $1.25; per year (about 800 pp.), $4.00.

American Historical Review. Founded to promote the interests of historical study in the United States, it publishes reviews of important works, results of original research, documents for the use of investigators, and news of the works of European scholars. Six Editors, including W. M. Sloane (Columbia). Managing Editor: J. F. Jameson (Brown). New York: The Macmillan Co. Quarterly; per year, $3.00.

American Journal of Archæology. Official journal of the Archæological Institute of America. Publishes papers of the Institute and the schools at Athens and Rome, and annual reports of these bodies. Issues special bulletins. Editor-in-chief: J. H. Wright (Harvard); with four Associate Editors, including J. R. Wheeler (Columbia). New York: The Macmillan Co. Bi-monthly, $1.00; per year, $5.00.

American Journal of Physiology. Edited for the American Physiological Society. Contains original contributions on purely physiological subjects. Seven Editors, including R. H. Chittenden and Frederic S. Lee. Ginn & Co., Boston. Monthly; per year, $5.00.

Annals of the New York Academy of Sciences. Official proceedings of the Academy of Sciences, including original contributions on all scientific subjects, minutes of meetings, etc. Editor: Gilbert van Ingen. Published by the Academy. Per volume (3 parts), $3.00.

Bulletin of the American Mathematical Society. Publishes lists and critical reviews of new mathematical treatises and text-books, notes on current events in the mathematical world, and many short original articles. Four Editors, including F. N. Cole. New York: The Macmillan Co. Monthly, except July and August; per year (about 500 pp.), $5.00.

Journal of Comparative Neurology. Devoted to the comparative study of the nervous system. Includes original contributions, reviews, and notices. Editors: C. L. Herrick (Univ. of New Mexico), associated with C. Judson Herrick (Denison University), and Oliver S. Strong (Columbia), with collaboration of Frederic S. Lee (Columbia), and others. Published by C. Judson Herrick, Granville, Ohio. Quarterly; per year, $3.50.

Modern Language Notes. Devoted to the interests of the academic study of English, German, and the Romance languages. Editor-in-chief: A. Marshall Elliott (Johns Hopkins); with two Associate Editors, including H. A. Todd (Columbia). Monthly, save from July to October, inclusive, 20c.; per year, $1.50; foreign, $1.75.

Psychological Review. Devoted to the publication of original researches in psychology, critical articles, and reviews. Edited by J. McKeen Cattell (Columbia) and J. Mark Baldwin (Princeton), with the coöperation of M. Allen Starr (Columbia), and others. Published bi-monthly, with an annual Index and numerous Monograph Supplements. New York: The Macmillan Co. The Review, 75c.; per year (about 700 pp.), $4.00. The Index (about 200 pp.), $1.00. The Monographs (about 500 pp.), $4.00 a volume.

Science. Devoted to the advancement of science. Edited by J. McKeen Cattell, with an editorial committee, including N. L. Britton, H. F. Osborn, R. S. Woodward, and others. New York: The Macmillan Co. Weekly, 15c.; per year (about 2000 pp.), $5.00.

Transactions of the American Mathematical Society. Devoted primarily to research in pure and applied mathematics, it is the official organ of the Society for the publication of important papers read before it. Edited by G. H. Moore (Chicago), E. W. Brown (Haverford), and T. S. Fiske (New York). Published by the Society. Quarterly (about 100 pp.); per year, $5.00.

Degrees Conferred during 1898–1899

Bachelor of Arts

COLUMBIA COLLEGE

Charles Adkins Baker
Harold Hosford Bowman
William Aspenwall Bradley
William Warren Bross
Charles Clinton Burke, Jr.
Ernest Abraham Cardozo
Robert Germain Cole
William Williams Comstock
Harry Randel Cook
William Butler Corning
Sumner Deane
Gustav Eggena
George Ehret, Jr.
Henry Cameron Eldert
Bernard Morris Leon Ernst
Arnold Winkelried Fismer
Norton De Los Lull Fletcher
George Phelps Fort
Arthur Alexander Fowler
Irving Giffin
Horace Cutler Graves
Frank Sutliff Hackett
Howard Sawyer Harrington
John Smith Harrison
George Sidney Hellman
Otto Helmuth Hinck
George Gallagher Hopkins, Jr.
Darwin Shaw Hudson
Sidney Louis Josephthal
Walter Guest Kellogg
William Wolfe Lesem
Maxwell Lester
Oscar Richard Lichtenstein
John Franklin McCann, Jr.
Adrian Smith Malsan
John Marcus
George Matthew
Henry Augustus Miller
John Purroy Mitchel
Stuyvesant Fish Morris, Jr.
Miles Rees Moffatt
Charles Moran
Herman Otto Mosenthal
Geoffrey Parsons
Theophilus Parsons
James Duane Pell
Ernest Chapin Ropes
Montgomery Schuyler, Jr.
Alexis Eugene Senftner
Frederick Kimber Seward
Prescott Alfriend Sherer
Richard Gordon Simpson
Davison Heermance Smith
Henry Capen Staunton
Charles Henry Tuttle
Warren Mesereau Van Name
Webster Wagner
Jonathan Dunham Wilson, Jr.
Hans William Zinsser

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BARNARD COLLEGE

Rosalie Bloomingdale
Mary Morrell Brackett
Ida May Demarest
Agnes Lillian Dickson
Georgie Mary Drew
Alice Duer
Virginia Crocheron Gildersleeve
Grace Harriet Goodale
Adelaide Camilla Hoffman
Marjorie Jacobi
Elsie Kupfer
Helen Marion Oakley
Martha Ornstein
Ruth Cecilia Overton
Aurélie Marie Reynaud
Ella Rosina Seligsberg
Anna Mabel Smith
Alté Stilwell
Edith Parker Striker
Mary Elizabeth Waddington
Amelia Wohlfarth

[21]

Bachelor of Laws

Alva Blanchard Adams, Ph.B.
Bernard Alexander, A.M.
Henry Newton Arnold, A.B.
Ray Bacon, A.B.
James S. Barcus
Edwin Atkinson Bayles, A.M.
James Doolittle Benedict
Henry John Bigham
Charles William Boote, A.B.
Oliver Rutherford Brandt
Louis John Carruthers
James Britton Cauthers, A.B.
William Joseph Clarke, A.M.
John Corbin
Richard Raymond Costello, A.B.
Thomas Bigelow Cowen, A.B.
Alfred Loomis Curtiss, A.B.
Johnston de Forest, A.B.
James Herbert Deignan, A.B.
Sylvester Chittenden Deming, A.B.
Mark Hugo Ellison
Millard Henry Ellison, A.B.
Albert Falck
Philo Taylor Farnsworth, Jr.
Charles Jarvis Fay, A.B.
Adelbert Howard Finney, Ph.B.
Charles Russell Fleischmann, A.B.
Carl Hitchcock Fowler, A.B., B.S.
Jacob Lawrence Friedmann
James Nelson Frierson, B.L.
Harry Raymond Frost
Henry Gennert
William Oscar Gennert, A.M.
Bernard Goldberg
Lawrence Goldberg, B.S., A.M.
Frederic Gros, B.S.
Harry Eugene Gros, B.S.
Benjamin Alexander Grosner
George Edward Hargrave
William Van Derveer Hodges
Frederic Lincoln Hunt, A.M.
Isidore Israel
Ralph Ketchum Jacobs
Henry Selden Johnston, A.B.
John Campbell Kerr, A.B.
Harry Bolossy Kiralfy
Robert Knowles
Herbert Allan Knox, A.M.
Lyman Ezra Latourette, A.B.
Jay Earl Lawshe, A.B.
James Thomas Lee, B.S., A.M.
Frederick Lese, B.S.
Joseph Mapes Lesser
William Andrew Lockwood, A.B.
Theodore Long
Andrew Gregg Loomis, A.B.
Thomas Heron McKee
Herbert Clinton Mason
Taylor More
Dwight Whitney Morrow, A.B.
Hugh Charles Murray, A.B.
Eugene Isherwood Murtha, A.B.
Saul Sidney Myers
George Washington Newgass, A.B.

Victor Edwin Palmer, A.B.
Walter Palmer Paret, A.B.
Henry Hollister Pease, A.B.
Wesley Vick Perry, A.B.
Nathan Orcutt Petty, A.M.
John Joseph Phelan, A.B.
Francis Deák Pollak, A.B.
William Henry Pratt, A.B.
Joseph Meyer Proskauer, A.B.
Allen Lawson Ramsay
William Aloysius Redden
Jackson Eli Reynolds, A.B.
Edwin Paul Shattuck
Otto Charles Sommerich, A.M.
Emmet Harland Soper, Ph.B.
Morton Stein
Benjamin Irving Taylor
Hiram Thomas
Victor Corse Thorne, Ph.B.
William Seymour Tyler, A.B.
George Francis Vanderveer, A.B.
Carl Vernon Vogt
Oscar Wagner, B.S., A.M.
Roberts Walker, A.B.
Charles Frederick Wheaton, A.B.
Harvey Lincoln Wheelock, A.B.
Will Carleton Whitehead
Levi Hollingsworth Wood, A.B.

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Doctor of Medicine

Truman Abbe, A.B.
Lewis Paddock Addoms
Arthur Rockwell Addy, A.B.
William Hanford Allée, Jr.
Charles Leonard Antony
Hermann Nehemiah Appel
William Buckingham Armstrong
Edward Aaron Aronson
Theodorus Bailey, B.S.
Harold Barclay
George Edward Barnes, A.B.
Edward Le Roy Barnett, B.S.
Thomas Joseph Barry
Walter Arthur Bastedo, Ph.G.
Edward John Bero
Edwin Beer, A.B.
Reginald Sidney Bennett
James Birckhead, A.M.
Theodore Edward Bleick
Dominic George Bodkin
August Samuel Boyd
Frederick Clark Bradner, A.B.
Frederick L. Brady
Julian Walter Brandeis, B.S.
Robert Coalter Bryan
Horace Campbell
George Arthur Carhart, B.S.
William Samuel Cherry, A.M.
Abram Schuyler Clark, B.S.
William Cogswell Clarke
William Barron Crawford
John Joseph Cummings
John MacBain Davidson
Fellowes Davis, Jr.
Joseph Dillenberg, B.S.
Patrick George Donovan
Augustus Sherman Downs
Arthur David Dryfoos, A.B.
Charles Francis Durning, A.B.
Olin Martin Eakins
Haven Emerson, A.B.
Herbert Henry Ellis
Charles Wilmer Fitch, A.B.
Rolfe Floyd, A.B.
Sherman Knevals Foote, A.B.
George Howard Fox, A.B.
J. Edgar Getman
Andrew James Gilmour, Ph.B.
Everett Willoughby Gould, A.B.
Alfred William Gray, A.B.
John Conrad Gross
Moritz Gross
Myron Foster Hall
James Taylor Hanan
Edgar Holden, Jr., A.B.
Henry Newell Howe
Frederic John Hughes
Oliver Paul Humpstone
Benno Hyams
Harry Warrington Ingling

Joseph Maurice Jackson
Reginald Henry Jackson
William Ketchum Jacobs
John Edward Jennings
Herman Judkowitz
Charles Joseph Kane, A.B.
Henry Thomas Kelly
Moses Keschner
Frank Henry Knight
George William Kosmak, A.B.
John Kurrus
William Henry Lawrence, Jr.
Mozart Monae Lesser
Arthur Maxwell Line, A.B.
Horace Ruthaford Livengood
Robert Livingston Loughran, A.B.
Victor Lowenstein
Henry Stoddard Lyman, A.B.
Charles Willard Lynn
William Wallace MacAlister
John Aloysius McCafferty, A.B.
Robert McCastline
William McDonald, Jr., B.P.
Fred Lyman McKee
Edwin Marcus Mendel, A.B.
Edward Ira Miller
James Alexander Miller, A.M.
Frank Worman Myrick
Frederick Emil Neresheimer
Robert Henry Nesbitt
Robert Ernest Noble, M.S.
Francis Jeremiah Vincent O'Brien, A.B.
Charles George O'Connor, A.B.
James Henry O'Connor, A.B.
Alfred Townsend Osgood, A.B.
William Anderson Payne
Frederick Harrison Pierson, Jr., B.S.
Charles Whitney Pollard, A.B.
Eugene Hillhouse Pool, A.B.
Tappan Chase Pulsifer, A.B.
George Gibier Rambaud
William Benjamin Roemer
Maurice Rosenberg
Charles Adolph Rosenwasser
Tracy George Russell, A.B.
Anthony Alexander Rutz, A.M.
George Hope Ryder, A.B.
William Salant, B.S.
William Augustus Muhlenberg Schnecker
Charles Edward Scofield
Daniel Joseph Scully, Jr.
Alfred Edward Shipley
Russell Aber Shirrefs
Albert Franklin Shrier
Thomas George Sloan
John Archibald Smith
Letchworth Smith, A.B.
Frederick Hallett Spencer
Amos Osborne Squire
Meyer Maurice Stark, A.B.
Abram Richard Stern
Robert Stevenson
Squire Wilbert Stone
George Linius Streeter, A.B.
Edward Forrester Holden Sutton, A.B.
Myles Joseph Tierney, A.M.
Frank Edward Tompkins
Alfred Trenchard-Wood, A.M.
Albert Eckhardt Ullman, A.B.
Frederic Oakman Virgin, A.B.
Raymond Lynde Wadhams, A.B.
Adolf Ludwig Waechter
Jonathan Mayhew Wainwright, A.B.
Fred Symonds Wakefield, A.B.
George Linden Warren
Oscar Watson, A.M.
Richard Kimble Wheeler, A.B.
Linsly Rudd Williams, A.B.
Henry Christie Williamson
Claude Lucas Wilson, A.B.

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Engineer of Mines

Albert Philip Bauman
John Cabot, Jr.
Henry Erastus Crawford
Charles Hammond Eckerson
Percy Kierstead Hudson
Charles Alexander Macy, 2d
Levi Evans Riter, Jr.
Otto Wagner

[8]

Civil Engineer

John Berger, B.S.
Tristram Roberts Coffin
Isadore Delson
Alfred Elliot Dieterich
Leicester Durham
Myron Samuel Falk
Richard Willis How, Jr.
Henry Howison Henderson
Alexander Parker Rogers, Ph.B.
Lawrence Mason Simonson
Thomas Alexander Stratford
Maximilian Weinstein

[12]

Electrical Engineer

Charles Sidney Aylmer-Small
Harrison Kerr Bird
Henry Cannon Carpenter
William Glasgow Clark
Henry Manning Cogan
Frank Secor Dickerson
James Jacob Ehrenreich
Samuel Ferguson, B.S.
Robert Anton Fliess
Charles Southard Hulbert
Andrew Norwood Jung
Howard Lichtenstein
Henry Knox McIntyre
Charles Hudson Machen
Meer-Schmul Moschkowitsch, M.E.
Julius Müller
George Robert Murphy, A.M.
George Darmon Orner
Henry Augustus Perkins, A.B.
William Howe Ripley
Henry Schroeder
Edward Delavan Nelson Schulte
Hewlett Scudder, Jr. A.B.
Ralph Edward Slaven

[24]

Metallurgical Engineer

Oscar Riker Foster

Bachelor of Science

(Course in Analytical and Applied Chemistry)

Oscar Charles Beck
Henry Fisher, B.S.
Rudolph Ernest Heike
Frederick Revell Kneeland
Russell Lane
Ralph Garrigue Wright

[6]

Bachelor of Science

(Course in Architecture)

Eli Benedict
Theodore Blondel, Jr.
Edward Blum
John Dalzell Boyd
Bayard Snowden Cairns, A.B.
Howard Chapman
George Gilbert Entz
Abraham Lincoln Fechheimer
Harold Newman Hall
Stephen Olney Hawkins
Robert Austen McCulloch
Herbert Richard Mainzer
Hubert Van Wagenen, Jr.
John Townsend Williams, Jr.

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Master of Arts

Grace Andrews,
B.S., Wellesley College, 1890.
Louis Kaufman Anspacher,
A.B., College of the City of New York, 1897.
Henry Newton Arnold,
A.B., Harvard University, 1896.
Brenton Thoburn Badley,
A.B., Ohio Wesleyan University, 1897.
Frederick Mark Becket,
B.S., McGill University, 1895.
LeRoy Mason Beeman,
A.B., Wesleyan University, 1895.
George Griswold Brower,
B.S., Syracuse University, 1887; M.S., 1890.
Charles Howard Burnside,
M.S., Penn College, 1896.
Clara Maria Burt,
B.S., Wellesley College, 1892.
John Peet Clyde,
Ph.B., Iowa College, 1894.
William Merriam Cobleigh,
E.M., College of Montana, 1894.
Grace Lathrop Collin,
B.L., Smith College, 1896.
Ada Louise Comstock,
B.L., Smith College, 1897.
Walter Wheeler Cook,
A.B., Columbia University, 1894.
Jasper Newton Deahl,
A.B., Harvard University, 1893.
Stephen Pierce Duggan,
B.S., College of the City of New York, 1890; M.S., 1897.
Louise Brisbin Dunn,
A.B., Columbia University (Barnard College), 1897.
Charles Bartlett Dyke,
A.B., Leland Stanford, Jr., University, 1898.
Lewis Einstein,
A.B., Columbia University, 1898.
Haven Emerson,
A.B., Harvard University, 1896.
Julia Hutchins Farwell,
A.B., Columbia University (Barnard College), 1898.
Samuel Ferguson,
B.S., Trinity College, 1896.
Adelbert Howard Finney,
Ph.B., University of Michigan, 1896.
Samuel Melvin Fischer,
A.B., College of the City of New York, 1898.
Albert Rolaz Gallatin,
A.B., Columbia University, 1891; E.E., 1898.
Everett Willoughby Gould,
A.B., Columbia University, 1896.
Frederic Lowell Green,
B.S., Massachusetts Agricultural College and Boston University, 1894.
Frederic Gros,
B.S., Hanover College, 1896.
Harry Eugene Gros,
B.S., Hanover College, 1896.
Rose Bertha Gruening,
A.B., Vassar College, 1895.
Carl Gundersen,
A.B., Leland Stanford, Jr., University, 1897.
Tracy Elliot Hazen,
A.B., University of Vermont, 1897.
Sydney Hubert Herman,
A.B., College of the City of New York, 1898.
Benjamin Rogers Howell,
A.B., Wabash College, 1897.
Jessie Wallace Hughan,
A.B., Columbia University (Barnard College), 1898.
Henry St. John Hyde,
Ph.B., Columbia University, 1896.
Reginald Hall Johnson,
A.B., University of Wisconsin, 1896.

Frederick Bird Jones,
A.B., Colgate University, 1898.
Thomas Jesse Jones,
A.B., Marietta College, 1897.
William Thomas Kemp,
A.B., St. John's College, Md., 1897.
Samuel Langer,
B.S., College of the City of New York, 1895.
Lyman Ezra Latourette,
A.B., McMinville College, 1894.
Jules Delmore Lederman,
A.B., College of the City of New York, 1898.
T. Augustin Ledwith,
A.B., College of St. Francis Xavier, 1897.
Joseph Albert Augustin Le Prince,
C.E., Columbia University, 1898.
Jesse Albert Locke,
A.B., Columbia College, 1880.
Henry Stoddard Lyman,
A.B., Yale University, 1892.
John Ernest Magie,
A.B., College of the City of New York, 1898.
Guy Everett Maxwell,
A.B., Hamline University, 1893.
William McDonald, Jr.,
Ph.B., Brown University, 1895.
Joseph Warren Miller, Jr.,
B.S., Pennsylvania State College, 1897.
Caroline Tilden Mitchell,
B.L., Smith College, 1897.
Robert Gorham Morse,
A.B., Harvard University, 1896.
Susan Isabella Myers,
A.B., Columbia University (Barnard College), 1898.
George William Peck, Jr.,
Ph.B., Cornell University, 1897.
Alice Jane Gray Perkins,
A.B., Columbia University (Barnard College), 1898.
Henry Augustus Perkins,
A.B., Yale University, 1896.
Sara Jay Phillips,
A.B., Vassar College, 1897.
Comadore Edward Prevey,
B.L., University of Wisconsin, 1895.
Ellen Pyle,
A.B., Swarthmore College, 1892.
Joseph Perry Ratzell,
A.B., Franklin & Marshall College, 1896.
Elizabeth Fisher Read,
B.L., Smith College, 1896.
Robert Kimball Richardson,
A.B., Yale University, 1898.
Edward Delavan Nelson Schulte,
B.S., Trinity College, 1897.
George Cole Scott,
C.E., Princeton University, 1898.
Hewlett Scudder, Jr.,
A.B., Yale University, 1896.
Thomas Gaskell Shearman, Jr.,
A.B., Yale University, 1889.
Evelina Carroll Simon,
A.B., Woman's College of Baltimore, 1898.
Arthur Barnett Spingarn,
A.B., Columbia University, 1897.
John Walter Stephens,
A.B., Trinity University, 1893; B.D., Cumberland University 1896.
Nathan Stern,
A.B., Columbia University, 1898.
Frederick Emerson Stockwell,
A.B., Brown University, 1890; B.D., Union Theological Seminary, 1898.
Aline Croquet Stratford,
A.B., Columbia University (Barnard College), 1897.
George Linius Streeter,
A.B., Union College, 1895.
Sherburne Frost Taylor,
B.S., Cornell University, 1897.

Alvan Alonzo Tenney,
A.B., Columbia University, 1898.
Stallo Vinton,
A.B., Columbia University, 1898.
Gregory Dexter Walcott,
A.B., Brown University, 1897.
Roberts Walker,
A.B., Amherst College, 1896.
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Linsly Rudd Williams,
A.B., Princeton University, 1895.
Isaac Yohannan,
A.B., Columbia College, 1897.
Mabel Minerva Young,
A.B., Wellesley College, 1898.

Doctor of Philosophy

Frank Greene Bates,
B.L., Cornell University, 1891.
Burtis Burr Breese,
A.B., University of Kansas, 1896; A.B., Harvard University, 1897; A.M., 1898.
Edward Sandford Burgess,
A.B., Hamilton College, 1879; A.M., 1882.
Frank Wadleigh Chandler,
A.B., Polytechnic Institute of Brooklyn, 1894; A.M., Columbia University, 1896.
Elsie Worthington Clews,
A.B., Columbia University (Barnard College), 1896; A.M., Columbia University, 1897.
Henry Edward Crampton, Jr.,
A.B., Columbia University, 1893.
George Van Ness Dearborn,
B.L., Dartmouth College, 1890; M.D., Columbia University, 1893; A.M., Harvard University, 1896.
Edwin Grant Dexter,
B.P., Brown University, 1891; A.M., 1892.
Elmer Wallace Firth,
C.E., Cornell University, 1895; A.M., Columbia University, 1898.
Shepherd Ivory Franz,
A.B., Columbia University, 1894.
George Balthasar Germann,
A.B., Columbia College, 1895.
Frederick Smith Hall,
A.B., Wesleyan University, 1893.
John Duer Irving,
A.B., Columbia University, 1896; A.M., 1898.
Smith Ely Jelliffe,
M.D., Columbia University, 1889; A.B., Brooklyn Polytechnic Institute, 1896
Allen Johnson,
A.B., Amherst College, 1892; A.M., 1895.
Edward Kasner,
B.S., College of the City of New York, 1896; A.M., Columbia University, 1897.
Walter Coluzzi Kretz,
A.B., Columbia University, 1896; A.M., 1897.
James Howard McGregor,
B.S., Ohio State University, 1894; A.M., Columbia University, 1896.
James McClay.
C.E., Columbia University, 1888.
Samuel Paul Molenaer,
Gymnasium at Reval, Testimonium Maturitatis, 1899.
John Randolph Neal,
A.B., University of Tennessee, 1893: A.M., Vanderbilt University, 1894; LL.B., 1896.
George N. Olcott,
A.B., Columbia University, 1893.
Frederick John Pope,
A.M., Queen's University, 1891.
William Popper,
A.B., Columbia University, 1896; A.M., 1897.

Clement Moore Lacey Sites,
A.B., Ohio Wesleyan University, 1887; A.M., 1890; LL.B., National University Law School 1890.

George Albert Soper,
B.S., Rensselaer Polytechnic Institute, 1895; A.M., Columbia University, 1898.

Joel Elias Spingarn,
A.B., Columbia University, 1895.

William Ferguson Tamblyn,
A.B., University of Toronto, 1895.

John Garrett Underhill,
A.B., Polytechnic Institute of Brooklyn, 1894; A.M., Columbia University, 1896.
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Adna Ferrin Weber,
B.S., Cornell University, 1894.

Theodore Greely White,
Ph.B., Columbia University, 1894; A.M., 1895.

Harriet Winfield,
A.B., Wellesley College, 1887; A.M., Columbia University, 1896.

John Francis Woodhull,
A.B., Yale University, 1880.

Robert Sessions Woodworth,
A.B., Amherst College, 1891; A.B., Harvard University, 1896; A.M., 1897.

HONORARY DEGREES

Master of Arts

(*Honoris Causa*)

John Aikman Stewart

Master of Science

Edward Livingston Trudeau, M.D.

Rear-Admiral George W. Melville,
Engineer-in-Chief of the United States Navy

Doctor of Laws

Carl Schurz, LL.D.

The Hon. Theodore Roosevelt, A.B., LL.B.
Governor of the State of New York

Fellows and Scholars

University Fellows

William Maitland Abell, Yale University, A.B., 1887, and A.M., 1898; Columbia University, graduate student, 1898–9.	Subject,	Political Science
George Neander Bauer, University of Minnesota, B.S., 1894; University of Iowa, M.S., 1898; Columbia University, graduate student, 1898–9.	"	Astronomy
George Sheldon Bowman, Roanoke College, A.B., 1894; Columbia University, Scholar in Jurisprudence, 1897–9.	"	Public Law
Wilhelm Alfred Braun, Toronto University, A.B., 1895; Chicago University, Fellow in German, 1898–9.	"	Germanic Philology
Bergen Davis, Rutgers College, B.S., 1896; Columbia University, graduate student, 1898–9.	"	Physics
Ernest Allen Gerrard, University of Nebraska, A.B., 1894; graduate student, 1894–5, 1896–7; University of Berlin, 1895–6; Columbia University, graduate student, 1898–9.	"	Psychology
Ferris Greenslet, Wesleyan University, A.B., 1897, and A.M., 1898; Columbia University, Scholar in English, 1898–9.	"	English
Carl Gundersen, Stanford University, A.B., 1897; Columbia University, Scholar in Mathematics, 1898–9.	"	Mathematics
George Livingstone Hamilton, Harvard University, A.B., 1895, and A.M., 1897, graduate student and candidate for Ph.D., 1897–9.	"	Romance Philology

THOMAS LE GRAND HARRIS, Subject, International Law
University of Indiana, A.B., 1892, and A.M., 1895; Harvard University, A.M., 1899.

TRACY ELLIOTT HAZEN, " Botany
University of Vermont, A.B., 1897; Columbia University, Scholar in Botany, 1897–8, and Fellow in Botany, 1898–9.

BENJAMIN FELIX HILL, " Geology
University of Texas, B.S., 1896, and M.S., 1897; Columbia University, A.M., 1898, and Scholar in Geology, 1898–9.

BERT HODGE HILL, " Greek
University of Vermont, A.B., 1895; Columbia University, Fellow in Greek, 1898–9.

WARREN LANNING HOAGLAND, Jr., " Sociology
Wesleyan University, A.B., 1898; Columbia University, Scholar in Social Science, 1898–9.

ALFRED LOUIS KROEBER, " Anthropology
Columbia University, A.B., 1896; A.M., 1897, and Assistant in Rhetoric, 1897–9.

HERMANN ANDREAS LOOS, " Chemistry
College of the City of New York, B.S., 1895; Columbia University, A.M., 1898, and graduate student, 1898–9.

JOSEPH WARREN MILLER, Jr., " Mechanics
Pennsylvania State College, B.S., 1897; Columbia University, Fellow in Mechanics, 1898–9.

HARRY GRANT PLUM, " European History
Iowa State University, Ph.B., 1894, and A.M., 1896; Columbia University, Scholar in History, 1898–9.

JESSE ELIPHALET POPE, " Economics
University of Minnesota, B.S., 1895, and M.S., 1897; Columbia University, graduate student, 1897–8, and Fellow in Economics, 1898–9.

COMADORE EDWARD PREVEY, " Economics
University of Wisconsin, B.L., 1893; Yale University, graduate student, 1897–8; Columbia University, Fellow in Economics, 1898–9.

Charles Lee Raper, Trinity College (N. C.), A.B., 1892; Columbia University, Scholar in History, 1898–9.	Subject,	American History
James Thomson Shotwell, Toronto University, A.B., 1898; Columbia University, Scholar in History, 1898–9.	"	European History
Edward Laurence Smith, Delaware College, A.B., 1896, and graduate student, 1896–8; Columbia University, Scholar in Romance Philology, 1898–9.	"	Romance Philology
William Roy Smith, University of Texas, A.B., 1897; Columbia University, A.M., 1898.	"	American History
Edwin Platt Tanner, Columbia University, A.B., 1897; A.M., 1898.	"	American History
Holland Thompson, University of North Carolina, Ph.B., 1895.	"	Political Economy
Franklin Zeiger, Columbia University, A.B., 1898; Scholar in Philosophy, 1898–9.	"	Philosophy

Barnard Fellow

Heinrich Ries, Ph.D.

Henry Drisler Fellow

Edward Charles Harwood, A.M

John Tyndall Fellow

Robert Bowie Owens, E.E.

Mosenthal Fellow

Mary Angela Diller

Schiff Fellow

William Henry Fry, A.M.

Senff Zoölogical Fellow

Benjamin Arthur Bensley, A.B.

McKim Fellows

Frederick Livingston Pell, Ph.B.
William Edward Parsons, B.S.

Class of 1870 Fellow

LEWIS BUFFET CARLL, A.M.

Alumni Association Fellows

(College of Physicians and Surgeons)

JOSEPH A. BLAKE, M.D., Anatomy
FREDERICK R. BAILEY, M.D., Pathology
AUGUSTUS B. WADSWORTH, M.D., Pathology

President's University Scholars

WALTER PERCY BORDWELL, University of California, B.L., 1898 ; Columbia University, graduate student, 1899.	Subject,	International Law
KARL KURT BOSSE, Cornell University, B.S., 1897.	"	Psychology
ALBERT BRITT, Knox College, A.B., 1898 ; Columbia University, graduate student, 1898–9.	"	Economics
R. ALLYN BUDINGTON, Williams College, A.B., 1896 ; A.M., 1899.	"	Zoölogy
DAVID GRIFFITHS, Agricultural College of South Dakota, B.S., 1892 ; M.S., 1893.	"	Botany
MONTGOMERY SCHUYLER, Jr., Columbia University, A.B., 1899.	"	Indo-Iranian Languages
GEORGE GILMORE SCOTT, Williams College, A.B., 1898 ; Candidate for A.M., 1899.	"	Zoölogy

University Scholars

ALLAN PERLEY BALL, Amherst College, A.B., 1892 ; A.M., 1895.	Subject,	Latin
GEORGE IRVING FINLAY, Harvard University, A.B., 1898.	"	Geology
CLYDE BOWMAN FURST Dickinson College, Ph.B., 1893 ; A.M., 1896.	"	English
LEE GALLOWAY, University of Minnesota, B.S., 1896.	"	American History
JOHN JACOB GEORGE, Lenoir College (N. C.), A.B., 1893.	"	Education
ARTHUR FREDERICK GOODRICH, Wesleyan University, Ph.B., 1899.	"	English

Louis Gottschall, Columbia University, B.S., 1898.	Subject,	Mathematics
Walter Baber Graham, University of Kansas, A.B., 1899.	"	Political Science
Henry David Gray, Colgate University, A.B., 1897; Columbia University, A.M., 1898.	"	Literature
Roland McMillan Harper, University of Georgia, B.E., 1897.	"	Botany
Edgar Shugert Ingraham, Colgate College, A.B., 1897.	"	Romance Philology
Alvin Saunders Johnson, University of Nebraska, A.B., 1897; A.M., 1898.	"	Political Economy
William Albert Kauffman, Bucknell University, A.B., 1895; A.M., 1898.	"	Physics
William Erskine Kellicott, Ohio State University, Ph.B., 1898.	"	Zoölogy
William Godsoe MacFarlane, Acadia College, A.B., 1893; A.M., 1898.	"	Sociology
George Matthew, Columbia University, A.B., 1899.	"	Germanic Philology
Royal Meeker, Iowa State College, B.S., 1898.	"	Sociology
Arthur Colon Neish, Queens University, Canada, A.B., 1898.	"	Chemistry
Paul M. Rea, Williams College, Candidate for A.B., 1899.	"	Zoölogy
Earl Evelyn Sperry, Syracuse University, Ph.B., 1898; Ph.M., 1899.	"	History
John Reed Swanton, Harvard University, A.M., 1897.	"	Anthropology
Charles Lorenzo Walsworth, Syracuse University, A.B., 1889; A.M., 1892.	"	Sociology
John Edwin Wells, Swarthmore College, B.L., 1896.	"	English
Albert Couser Whitaker, Leland Stanford, Jr., University, A.B., 1899.	"	Economics

HERBERT L. WILBUR, Amherst College, A.B., 1892. — Subject, Latin

HARRY IRWIN WOODS, Lafayette College, A.B., 1895; A.M., 1898. — " Astronomy

EDWIN CAMPBELL WOOLLEY, University of Chicago, A.B., 1898; graduate student, 1898–9. — " Constitutional Law

O'Dwyer Scholar

JOSEPH O'DWYER

Alonzo Clark Scholar

PHILIP HANSON HISS, Jr., M.D.

Susan Dyckman Scholar

WILLIAM K. GREGORY

John D. Jones Scholar

JOHN CUTLER TORREY, A.B.

BARNARD COLLEGE

Hartley House Fellow

ELSIE WORTHINGTON CLEWS, A.B., A.M., PH.D.

Fiske Graduate Scholar

VIRGINIA CROCHERON GILDERSLEEVE, A.B.

Ella Weed Scholar

WILLINA BARRICK

Curtis University Scholars

GRACE ANDREWS, B.Sc., A.M.
FLORENCE ANDERSON DOWDEN, A.B.
MARY STONE MACDOWELL, A.B.
LOUISE PLACE, A.B.

Brooklyn Scholars

MARY FREDERICA HARRISON
MAY AMERMAN JOHNSON
JEANNETTE ROWLAND SEIBERT
MADELEINE DAYRELL SKINNER
ADA BLANCHE CLOUSE NEISWENDER
GRACE MALVINA PETERS
HELEN MARIA WRIGHT

Graduate Scholars on Brooklyn Scholarships

Ella Roselle Lathrop, A.B.
Martha Ornstein, A.B.
Alice Jane Gray Perkins, A.B.
Edith Parker Striker, A.B.
Amelia Wohlfarth, A.B.

Trustees Competitive Entrance Scholar

Laura Randolph Seguine

Veltin School Scholar

Ellinor Ten Broeck Reiley

Mrs. Donald McLean Scholar

Florence Leslie Kyte

Jennie B. Clarkson Scholar

Margaret Elizabeth Clark

Lucille Pulitzer Scholar

Helen Louise King

Emily James Smith Scholar

Katharine Ellen Poole

Anna E. Barnard Scholar

Florence Palmer Cheesman

Brearley Scholar

May Godfrey Wendell

TEACHERS COLLEGE

Teachers College Fellows

William Alfred Ackerman, Lafayette College, A.B., 1894; A.M., 1897.	Subject, Education
Jasper Newton Deahl, University of Nashville, A.B., 1889; Harvard University, A.B., 1893; Columbia University, A.M., 1899; Teachers College, Higher Diploma, 1899.	" Education and Sociology
George W. A. Luckey, Leland Stanford, Jr., University, A.B., 1894; Clark University, 1894–1895.	" Education and Psychology

Manual Training Fellow

JOHN CREE TELFORD WORK,
State Normal School, Indiana, Pa., B.E., 1890; M.E., 1892; Boston Sloyd Training School, 1892.

Kindergarten Teaching Fellow

CATHERINE GERALDINE O'GRADY,
Toronto Normal School, 1893; University of Pennsylvania, 1897–99.

Teachers College Scholars

MAUD BELCHER, Pratt Institute, 1890–1891.	Subjects, Domestic Science and Education
ANNAH PRENTICE BLOOD, State Normal School, Salem, Mass., 1881.	Subjects, Education and Geography
EMMA KATE CARMEN, Student in Dresden, 1888; Paris, 1892.	" Education and Psychology
JOSEPH PERRY JACKSON, Oskaloosa College, A.B., 1877; A.M., 1880; Iowa State University, LL.B., 1879.	" Education and Psychology
RALPH W. JONES, Indiana University, A.B., 1888; Indiana State Normal School, 1896.	" Education and Geography
GUY EVERETT MAXWELL, Hamline University, A.B., 1893; Columbia University, A.M., 1899; Teachers College, Higher Diploma, 1899.	" Education and Psychology
AMOS FRANK STAUFFER, Central State Normal School, B.E., 1884; M.E., 1886; Lafayette College, A.B., 1891; A.M., 1894.	" Education and Psychology

Hoadley Scholar

LILA MADGE PALMER, Subjects, Education and Greek
Smith College, A.B., 1899.

Low Scholars

CHEVES WEST,
ELIZABETH S. LEAVENWORTH,
MARY LOUISE WHEELER,
MAY EVELYN HUGHES,
Alfred University, Ph.B., 1898.

Charlotte Louisa Williams Scholar

ESTHER KEAGEY.

Shackelford Scholar

MARY IRENE NILES.

Pierrepont Scholar

ADA M. SKINNER.

Tileston Scholar

MARY BEALES VAIL,
Hellmuth College, 1879.

Georgia Federation Scholar

EMMA PITMAN WILBURN.

Awards of Prizes and Honors, 1899

COLUMBIA COLLEGE

Honors

Highest General Honors

William King Gregory Class of 1900
A. A. Low Scholar
John Reston Giles " " 1902

General Honors

Pierre Frederic Irving Class of 1900
Cutting Scholar
Arthur Youle Meeker " " 1900
Clark Scholar
Sidney Harry Dixon " " 1900
Vanderbilt Scholar
David Henry Pollard " " 1900
Sloane Scholar
John Muirheid " " 1900
Vanderbilt Scholar
Rudolph Isaac Coffee " " 1900
Schiff Scholar
Melville Jefferson France " " 1900
Morgan Scholar
Michael Marks Davis, Jr " " 1900
Charles Jones Ogden " " 1900
James Floyd Bowman " " 1900
Robert Chipman Hull " " 1900
Simeon Strunsky " " 1900
Leo Lesinsky " " 1900
Charles William Stoddart " " 1900
Henry Wetherhorn " " 1900
Alfred Einstein Cohn " " 1900
John Erskine " " 1900
James Joseph Finnigan " " 1900
Henry Starr Giddings " " 1900
Harry Hull St. Clair, Jr " " 1900
Philip Coan " " 1900
Frank Kidde " " 1900
Oscar Lowenstein " " 1900
William Mead Lindsley Fiske, Jr " " 1900
Everett Merl Hawks " " 1900

HENRY SYDNOR HARRISON.....Class of 1900
GORDON PARKER..... " " 1900
GEORGE PAYN QUACKENBOS..... " " 1900
HJALMAR HJORTH BOYESEN, 2d..... " " 1900
EDWIN JOSEPH WALTER..... " " 1900
MAYER JOSEPH WEINSTEIN..... " " 1900
CHARLES SAVAGE FORBES..... " " 1901
Parish Scholar
DAVID ARMSTRONG..... " " 1901
Morgan Scholar
FREDERICK WILLIAM JUSTUS HEUSER..... " " 1901
A. A. Low Scholar
JAMES GRAY..... " " 1901
Vanderbilt Scholar
HANS OLAF HANSON..... " " 1901
ELLIOTT WILLIAMS BOONE..... " " 1901
EDWARD BEDINGER MITCHELL..... " " 1901
JOHN BOYCE SMITH, Jr..... " " 1901
EGBERT WARD..... " " 1901
KNOWLTON DURHAM..... " " 1901
VICTOR FITCH MOUNT BONSALL..... " " 1901
ALBERT FORSCH..... " " 1901
GEORGE LAURENCE DONELLAN..... " " 1901
WILLIAM HENRY BOESE..... " " 1901
KARL KUMLER LORENZ..... " " 1901
GEORGE CHRISTIAN OTTO HAAS..... " " 1902
Morgan Scholar
PERRY DEXTER HUNT..... " " 1902
Faculty Scholar
JAMES BASSETT, Jr..... " " 1902
Clark Scholar
EDWARD SCHEUSTER..... " " 1902
Vanderbilt Scholar
HORACE RICHMOND STURTEVANT..... " " 1902
Vanderbilt Scholar
MOSES ROSENBLUETH..... " " 1902
FRANK H. SEWALL..... " " 1902
LOUIS RENE KAUFMAN..... " " 1902
JOHN PIERCE LANGS..... " " 1902
GILBERT OAKLEY WARD..... " " 1902
GEORGE HENRY DANTON..... " " 1902
RALPH WHITNEY CAREY..... " " 1902
GEORGE HAMMOND HUNTTING..... " " 1902
THEODORE RAYMOND ST. JOHN..... " " 1902
WILLIAM MARSIGLIA NESBIT..... " " 1902
JAMES HAROLD HEROY..... " " 1902
JOSEPH GARDNER HOPKINS..... " " 1902
LYLE EVANS MAHAN..... " " 1902
ARCHIBALD SPIERS WINSLOW..... " " 1902

Jarvis Pomeroy Carter	Class of 1902
Albert Arthur Epstein	" " 1902
Walter Lester Glenney	" " 1902
James Harper, Jr.	" " 1902
Richard Kelly	" " 1902
Alwin Joseph Scheuer	" " 1902
Walter Nathan Seligsberg	" " 1902
Stanley Kidder Wilson	" " 1902
Alfred Stratton Laurence	" " 1902
Rockhill Brevoort Potts	" " 1902

Departmental Honors

Final Honors

English
Charles Henry Tuttle

Economics
Charles Adkins Baker
Ernest Abraham Cardozo

Junior Honors

Germanic Languages
Edwin Joseph Walter

Romance Languages
James Joseph Finnigan

English
Oscar Lowenstein

Rhetoric and English Composition
John Erskine
Simeon Strunsky

Literature
John Erskine

History
Martin Wortmann

Sophomore Honors

Germanic Languages
John Boyce Smith, Jr.

Mathematics
Moses Rosenblueth

Prize of the Alumni Association

JOHN SMITH HARRISON

Chanler Historical Prize

CHARLES HENRY TUTTLE

Competitive Scholarships, Class of 1903

Alumni Competitive Scholar
CLINTON G. ABBOTT

Hewitt Scholar
ALEXANDER OTTO BECHERT

Brooklyn Scholars
* EDMOND JORDAN HARRISON
HAROLD CHAFFEE MCCALLAM
SAMUEL ABRAHAM TELLZY

COLLEGE OF PHYSICIANS AND SURGEONS

Harsen Prizes for Proficiency at Examinations

First Prize: JAMES ALEXANDER MILLER
Second Prize: EVERETT WILLOUGHBY GOULD
Third Prize: HAVEN EMERSON

Examination Honors

ROLFE FLOYD
EUGENE HILLHOUSE POOL
EDWIN BEER
GEORGE LINIUS STREETER
RAYMOND LYNDE WADHAMS
FELLOWES DAVIS, Jr.
FREDERICK JOHN HUGHES

Cartwright Prize

C. JUDSON HERRICK

Joseph Mather Smith Prize

FREDERICK RANDOLPH BAILEY

* Edmond Jordan Harrison was awarded a Brooklyn Scholarship, Class of 1902, but poned matriculation and entered with the Class of 1903, in which his previous examination again secured him a scholarship.

SCHOOL OF POLITICAL SCIENCE

Bennett Prize

CHARLES HENRY TUTTLE

Prize Lectureships

GEORGE JAMES BAYLES
JOHN ARCHIBALD FAIRLIE
WILLIAM ZEBINA RIPLEY

Toppan Prize

CARL LOTUS BECKER

Seligman Prize

ALBERT BRITT

UNIVERSITY

H. C. Bunner Medal

CHARLES HENRY TUTTLE

Honorable Mention
GEORGE SIDNEY HELLMAN

DIRECTORY OF OFFICERS

The numeral in parentheses after each name refers to the page on which names and titles are given in full.

B. = Barnard College.
C. = Columbia College.
E. = Engineering.
F. = Fayerweather.
H. = Havemeyer.
L. = Library.
P. & S. = College of Physicians and Surgeons.
S. = Schermerhorn.
T. = Teachers College.
U. = University.
V. C. = Vanderbilt Clinic.
W. = West.

NAME	OFFICE HOURS	OFFICE	RESIDENCE
Abbe, R. Clin. Lect. (4)		P. & S.	13 W. 50
Abbott, H. V. Instr.		T.	28 E. 28
Aldrich, J. Clin. Asst. (8)		V. C.	106 W. 81
Andrews, W. C. Asst. (7)	M. Th. Sat. 9.30–12.30	201 F.	Hotel Margaret, Bklyn.
Anthony, K. S. Asst.		T.	2337 Broadway
Armstrong, W. Clin. Asst. (8)		V. C.	24 W. 36
Atwood, C. E. Clin. Asst. (8)		V. C.	8 W. 16
Ayer, J. C. Clin. Asst. (8)		V. C.	31 W. 36
Aylmer-Small, C. S. Asst. (8)	Daily 10.30–12.30	501 E.	Passaic Bridge, N. J.
Babbitt, E. H. Instr. (4)	W. F. 9.30–10.30	312 W.	
Bagster-Collins, E. W. Instr.		T.	2016 7th ave.
Bailey, F. R. Asst. (7)		P. & S.	1165 E. Jersey st. Elizabeth, N. J.
Bailey, P. Clin. Asst. (8)		V. C.	4 W. 50
Baker, C. M. Instr.		T.	417 W. 114
Baker, F. T. Prof. (2)	M. 2.30 Th. 10.30	T.	Caryl ave., Yonkers, N. Y.
Baker, G. H. Lib. Emer. (10)			
Baldwin, E. G. Librarian Teachers College		T.	469 Main st., E. Orange, N. J.
Ball, A. B. Prof. (4)		P. & S.	42 W. 36
Bargy, H. Lect. (8)	Tu. Th. 2.30	306 W.	209 W. 105
Barstow, D. M. Clin. Asst. (9)		V. C.	6 E. 9
Batchelder, E. Asst.		T.	1161 Amsterdam ave.
Batchelder, M. I. Asst.		T.	1161 Amsterdam ave.
Baumann, A. P. Asst. (8)	M.–F. 9.30–5.30	102 H.	228 E. 52
Bawden, E. Asst.		T.	115 W. 78
Bayles, G. J. Prize Lect. (8)	F. 4.30	L. 405	287 4th ave.
Beebe, W. H. H. Sec. (xi)	M. W. F. 9–5	L. 213	425 W. 117
Benns, C. P. Instr. (5)		T.	18 Landscape ave., Lowerre, N. Y.

NAME	OFFICE HOURS	OFFICE	RESIDENCE
Bigelow, M. A. Instr.		T.	594 W. 152
Biggs, G. P. Dem. (4)		P. & S.	39 E. 63
Biklé, C. E. Adj. Prof. (2)	M. F. 1 Th. 10.45	T.	128 W. 103
Bill, E. W. Clin. Asst. (9)		V. C.	239 W. 52
Black, A. Tutor (6)	M.–F. 10.30–12	507 E.	1 W. 118
Blake, J. A. Asst. Dem. (4)		P. & S.	601 Madison ave.
Blanchard, E. J. Asst.		T.	139 W. 15
Boag, E. T. Registrar, Sch. Med. (xi)	Daily 10–5	P. & S.	951 Greene ave., Bklyn.
Boas, F. Prof. (3)			
Bogert, M. T. Instr. (5)	M. W. F. 2.30–4.30	408 H.	
Bonar, A. B. Clin. Asst. (9)		V. C.	157 W. 47
Bradley, W. L. Clin. Asst. (9)		V. C.	119 W. 75
Brannan, J. W. Instr. (5)		P. & S.	11 W. 12
Braunlich, A. R. Clin. Asst. (9)		V. C.	68 W. 96
Brewer, G. E. Asst. Dem. (4)		P. & S.	68 W. 46
Brewster, W. T. Tutor (6)	T. Th. S. 9.30–11.30	507 F.	112 W. 81
Brinckerhoff, E. V. Asst.		T.	10 W. 4th st., Mt. Vernon, N. Y.
Britton, N. L. Emer. Prof. (10)		N. Y. Botanical Garden	
Brockway, F. J. Asst. Dem. and Sec. Sch. Med. (4)	Daily 9.30	P. & S.	183 W. 73
Brouner, W. B. Clin. Asst. (9)		V. C.	256 W. 12
Brush, M. C. Asst. Registrar, Teachers Coll.	M.–F. 9–5 S. 9–12	T.	410 W. 115
Buck, A. H. Clin. Prof. (3)		P. & S.	48 W. 40
Bull, W. T. Prof. (1)		P. & S.	35 W. 35
Burchell, H. J. Jr. Asst (7)	F. 10.30	308 C.	38 E. 53
Burdick, F. M. Prof. (2)	T. W. 10.30–11.30	303 L.	115th st., Riverside Drive
Burgess, J. W. Prof. and Dean Sch. of Pol. Sci. (1)	M.–Th. 3.30–5	404 L.	323 W. 57
Burr, W. H. Prof. (2)		401 E.	151 W. 74
Butler, E. R. Instr.		T.	175 Hamilton ave., Paterson, N. J.
Butler, N. M. Prof. and Dean Sch. of Philos. (1)	M.–Th. 2	420 L.	119 E. 30
Cabot, C. A. Exam. Phys.		T.	126 W. 48
Cabot, J. Clin. Asst. (9)		V. C.	126 W. 48
Calhoun, M. E. Asst.		T.	419 W. 118
Calkins, G. N. Instr. (6)	T. F. 10–1	604 S.	1 W. 81
Campbell, A. Clin. Asst. (9)		V. C.	Manhattan State Hosp'l, Ward's Island
Canfield, G. F. Prof. (2)	M. T. 4.30–5.30	302 L.	32 E. 33

NAME	OFFICE HOURS	OFFICE	RESIDENCE
Canfield, J. H. Librarian (xi)	M.–F. 10–12.30	201 L.	429 W. 117
Carleton, P. G. Asst. (8)	M. T. F. 10.30–11.30	507 F.	108 W. 81
Carmalt, C. C. Asst. Dem. (4)		P. & S.	40 E. 58
Carpenter, G. R. Prof. (2)	T. Th. S. 9.30–10.30	508 F.	501 W. 113
Carpenter, W. H. Prof. (2)	T. Th. 2.30–3.30, M. W. 1.30–2.30	316 W.	253 W. 100
Carr, M. L. Clin. Asst. (9)		V. C.	353 W. 57
Carss, E. Instr.		T.	537 W. 141
Carter, C. B. Clin. Asst. (9)		V. C.	105 W. 71
Castle, E. H. Prof. (3)	Tu. F. 8.45–9 W. Th. 3.15–3.45	T.	359 W. 121
Caswell, W. H. Clin. Asst. (9)		V. C.	201 W. 55
Cathcart, W. L. Adj. Prof. (3)		604 E.	377 St. James st., Fordham H'ts
Cattell, J. McK. Prof. (2)	T. Th. 2.30	413 S.	Garrison, N. Y.
Chambers, M.D. Instr.		T.	Hotel Endicott, 81st st. and Columbus ave.
Chandler, C. F. Prof. (1)	T. Th. S. 10–5 M. W. F. 1.30–5	303 H.	51 E. 54
Chase, L. N. Asst. (7)	W. F. 9.30	511 F.	520 W. 123
Chittenden, J. B. Tutor (6)	T. Th. 11.30	407 C.	20 Morningside ave.
Chittenden, R. H. Dir. and Lect. (8)	F. 12–1	P. & S.	New Haven, Conn.
Churchill, A. V. Prof. (3)	M. T. W. F. 12.	T.	2730 Broadway
Claiborne, J. H. Instr. (5)		P. & S.	39 W. 36
Clark, J. B. Prof. (3)	T. Th. 2	404 W.	280 W. 70
Cochran, K. M. Instr.		T.	419 W. 118
Cohn, A. Prof. (2)	M. W. 2.30	302 W.	250 W. 94
Cole, F. N. Prof. (3)	M. 1.30–2.30	406 C.	
Coley, W. B. Clin. Lect. (4)		P. & S.	5 Park ave.
Coll, A. P. Clin. Asst. (9)		V. C.	157 Lexington ave.
Collins, H. D. Asst. Dem. (4)		P. & S.	119 E. 35
Comstock, W. W. Asst. (8)	Daily 9.30–1.30	401 F.	521 W. 123
Cook, F. R. Clin. Asst. (9)		V. C.	151 W. 71
Cook, W. W. Asst. (7)	M. W. F. 9.30–10.30	404 C.	174 W. 96
Coster, E. L. Asst. (7)			Irvington-on-Hudson, N. Y.
Cowen, W. Instr. (5)		P. & S.	35 E. 60
Cragin, E. B. Prof. (3)		P. & S.	62 W. 50
Crampton, H. E. Tutor (6)	S. 10–12	611 S.	158 W. 119
Crary, G. W. Asst. Dem. (4)		P. & S.	22 W. 55
Crocker, F. B. Prof. (2)	M.–Th. 10.30–11.30	503 E.	14 W. 45
Cunningham, R. H. Clin. Asst. (9)		V. C.	200 W. 56
Curtis, C. C. Tutor (6)	W. 10–12	501 S.	
Curtis, E. Emer. Prof. (10)			120 Broadway
Curtis, J. G. Prof. (1)		P. & S.	327 W. 58

NAME	OFFICE HOURS	OFFICE	RESIDENCE
Cushing, H. A. Lect. (8)	F. 10.30–11.30	414 W.	106 W. 105
Cutter, W. D. Asst. (7)		P. & S.	1208 Pacific st., Bklyn.
Dade, C. T. Clin. Asst. (9)		V. C.	63 E. 56
Daniell, L. Registrar, Teachers Coll.	M.–F. 9–5 S. 9–12	T.	412 W. 115
Darrach, E. R. Head of Teachers College Hall	Daily 8–9	T.	1161 Amsterdam ave.
Day, A. M. Instr. (5)	T. Th. 10	412 W.	128 W. 103
Day, W. S. Tutor (6)	T. Th. F. 9.30 –12.30		
	T. Th. 3.30	213 B.	240 W. 104
Dean, B. Adj. Prof. (3)	M. W. 9–12	605 S.	20 W. 82
Delafield, F. Prof. (1)		P. & S.	12 W. 32
Derr, H. M. Asst. (8)	Daily 2.30–5	303 F.	410 W. 115
Dodge, R. E. Prof. (3)	M. T. W. 1.30–2.30 F. 10	T.	684 St. Nicholas ave.
Dow, E. L. Clin. Asst. (9)		V. C.	49 W. 57
Dowd, C. N. Instr. (5)		P. & S.	135 W. 73
Draper, W. H. Emer. Prof. (10)			19 E. 47
Draper, W. K. Instr. (5)		P. & S.	116 E. 38
Duffie, C. R. Chap. Emer. (10)			263 Lexington ave.
Dunn, L. B. Tutor.		B.	Fiske Hall, Barnard
Dunning, W. A. Prof. (2)	M. 3.30–4 W. 11.30–12.30	409 L.	Hotel Empire, B'way and 63
Dwight, J. Jr. Clin. Asst. (9)		V. C.	2 E. 34
Earle, M. L. Lect. (8)	T. 2.30	209 B.	462 W. 22
Edgerton, J. I. Clin. Asst. (9)		V. C.	215 W. 43
Egbert, J. C. Jr. Adj. Prof. (3)	T. Th. 12–30	310 C.	364 Webster ave., Jersey City, N. J.
Egleston, T. Emer. Prof. (10)			35 Washington Sq.
Eklöf, O. R. Instr.		T.	127 W. 74
Eliot, E. Jr. Instr. (5)		P. & S.	48 W. 36
Ely, L. W. Clin. Asst. (9)		V. C.	60 W. 50
Evans, E. M. Asst. (7)		P. & S.	68 W. 46
Fairlie, J. A. Prize Lect. (8)		403 L.	890 West End ave.
Farrand, L. Instr. (4)	M. 11.30	405 S.	19 W. 34
Ferris, A. W. Clin. Asst. (9)		V. C.	343 Madison ave.
Fisher, G. F. Bursar	M.–F. 9–5 S. 9–12	109 L.	124 E. 24
Fisher, H. Asst. (8)	T.–S. 2.30–5	206 H.	108 E. 70
Fiske, T. S. Prof. (2)	T. Th. 10.30	401 C.	
Fitz-Gerald, J. D., H., Asst (7)	W. 3.30–4.30	306 W.	
Foote, E. M. Clin. Asst. (9)		V. C.	70 W. 35
Forrest, M. L. D. Asst.		T.	828 St. Nicholas ave.

NAME	OFFICE HOURS	OFFICE	RESIDENCE
Fowler, S. W. Clin. Asst. (9)		V. C.	116 W. 103
Fox, G. H. Clin. Prof. (3)		P. & S.	18 E. 31
Francke, P. Clin. Asst. (9)		V. C.	
Freeborn, G. C. Instr. (4)		P. & S.	215 W. 70
French, I. C. Asst.		T.	Fiske Hall
Frothingham, R. Instr. (5)		P. & S.	19 E. 38
Fuld, J. E. Clin. Asst. (9)		V. C.	169 E. 82
Gallaudet, B. B. Dem. (4)		P. & S.	162 W. 83
Germann, G. B. Asst. (7)	M.–F. 2.30	416 L.	
Gibney, H. W. Clin. Asst. (9)		V. C.	16 Park ave.
Gibney, V. P. Clin. Prof. (4)		P. & S.	16 Park ave.
Giddings, F. H. Prof. (2)	T. 4.30 F. 2	403 L.	150 W. 79
Gies, W. J. Instr. (5)		P. & S.	133 W. 72
Gilbert, C. B. Lect.		T.	Newark, N. J.
Gillespy, J. B. Asst.		T.	9 W. 64
Gilley, W. C. Clin Asst. (9)		V. C.	59 Bank st.
Gillmore, M. B. Asst.		T.	49 Garden Place, Bklyn.
Goetze, F. A. Supt. of B. & G. (xi)	M.–F. 10–11	110 L.	
Goodell, G. A. Asst.		B.	Barnard College
Goodhart, S. P. Clin. Asst. (9)		V. C.	127 E. 61
Goodnow, F. J. Prof. (1)	M.–Th. 3.30 –4.30	408 L.	49 Riverside Drive
Gordon, R. Instr. (5)	T. 2.30–4.30	409 F.	315 W. 71
Gottheil, R. J. H. Prof. (1)	F. 2.30	401 W.	2074 5th ave.
Hackett, F. S. Asst. (7)	Th. S. 9.30–10.30	508 F.	7 W. 107
Hallock, W. Adj. Prof. (2)	Th. 10.40–12	409 F.	417 W. 118
Hamlin, A. D. F. Adj. Prof. (2)	M. 10.30–11.30 W. 10.30–12.30	613 H.	1285 Columbus ave.
Harpham, F. E. Computor (7)			331 W. 24
Harriman, C. A. Instr. (4)		605 H.	410 W. 115
Hart, C. A. Instr.		T.	246 W. 108
Hartley, F. Instr. (4)		P. & S.	52 W. 50
Hayden, J. R. Instr. (5)		P. &. S.	107 W. 55
Hervey, W. A. Tutor (6)	M. 2.30 T. 12.30 F. 11.30	314 W.	607 W. 138
Hill, E. Y. Clin. Asst. (9)		V. C.	360 W. 58
Hill, G. W. Lect. (8)	S. 10.15–10.30	604 F.	W. Nyack, N.Y.
Hinrichs, G. Conductor of Music (8)	T. 4	509 S.	145 E. 62
Hiss, P. H. Jr. Instr. (6)		P. & S.	28 N. Washington Sq.
Hodenpyl, E. Instr. (5)		P. &. S.	143 W. 73
Hodgson, J. H. P. Clin. Asst. (9)		V. C.	29 Washington Sq.
Hogarty, B. Asst. (7)	Tu.–S. 5.30–6.30	509 H.	252 W. 121
Holden, W. A. Clin. Asst. (9)		V. C.	45 W. 39
Hollick, A. Tutor (6)	M.–Th. 10–12 F. 10–4	302 S.	New Brighton, N. Y.

NAME	OFFICE HOURS	OFFICE	RESIDENCE
Hooper, F. C. Asst. (7)			
Hopkins, W. Clin. Asst. (9)		V. C.	28 W. 45
Hornbostel, H. F. Asst. (7)	M. W. F. 2.30–6.30	H.	Oakland, 49th st. West
Hotchkiss, C. W. Asst		T.	268 W. 84
Hotchkiss, L. W. Instr. (5)		P. & S.	24 E. 54
Houston, J. W. Prof. (3)	M. W. 10.30–11.30	305 L.	117 W. 58
Hovey, R. Lect. (8)		B.	202 W. 103
Howe, H. M. Prof. (3)	M. W. F. 10.30–11.30	103 H.	27 W. 73
Howe, M. A. Curator (8)	M. F. 9.30–12.30	504 S.	Bedford Park, N. Y.
Howland, A. C. Instr.		T.	235 W. 120
Huber, F. Instr. (5)		P. & S.	209 E. 17
Huber, J. Clin. Asst. (9)		V. C.	113 E. Broadway
Huntington, G. S. Prof. (2)		P. & S.	50 E. 73
Hurd, L. M. Clin. Asst. (9)		V. C.	41 W. 50
Hutton, F. R. Prof., and Dean Faculty of Applied Science (1)	T. Th. 10.30–12.30	308 H.	319 W. 107
Hyslop, J. H. Prof. (3)	M. W. F. 1.15 T. Th. 2.15	416 L.	519 W. 149
Jackson, A. V. W. Prof. (2)	M. 10.30	403 W.	16 Highland Pl., Yonkers, N.Y.
Jackson, F. W. Instr. (5)		P. & S.	12 W. 18
Jackson, G. T. Instr. (5)		P. & S.	14 E. 31
Jacobi, A. Clin. Prof. (3)		P. & S.	110 W. 34
Jacoby, H. Adj. Prof. (2)	M. W. 10.30–12	608 F.	15 W. 53
James, W. B. Instr. (5)		P. & S.	17 W. 54
Jardine, J. Instr.		T.	354 W. 119
Jarman, G. W. Instr. (5)		P. & S.	54 W. 76
Jelliffe, S. E. Clin. Asst. (9)		V. C.	231 W. 71
Jessup, D. S. D. Asst. (7)		P. & S.	356 W. 21
Johnson, A. B. Clin. Lect. (4)		P. & S.	12 E. 58
Johnstone, W. B. Asst. (7)	W. F. 9.30–12.30	210 F.	22 W. 25
Jones, A. L. Asst. (7)	M. W. 4.30 Tu. Th. F. 1.30	416 L.	310 W. 113
Jones, M. Asst.		T.	522 W. 123
Jordan, D. Lect. (8)	W. 11.30	301 W.	310 W. 113
Joüet, C. H. Asst. (7)	W. 10.30–11.30 Th. 1.30–2.30	505 H.	
Judd, I. B. Instr.	Absent on leave	T.	1 W. 86
Julien, A. A. Instr. (4)	M.–F. 1.30–2.30	303 S.	71 E. 87
Keener, W. A. Prof., and Dean Law School (2)	W. Th. F. 12.30	Law Library	86 E. 56
Kellogg, G. S. Curator	M.–F. 3–4	T.	366 W. 118
Kemp, J. F. Prof. (2)	M.–F. 10.30–11.30	403 S.	211 W. 139
Kennedy, J. M. Clin. Asst. (9)		V. C.	168 W. 97
Keppel, F. P. Asst. Sec. (xi)	M. F. 9–5 S. 9–12	213 L.	239 E. 17

NAME	OFFICE HOURS	OFFICE	RESIDENCE
Keyser, C. J. Tutor (6)	T. 2–2.30 W. 2.30–3	408 C.	24 Manhattan ave.
Kinne, H. Prof.	M. 10.45–11.30 W. 2.30–3.30	T.	8 Morningside ave.
Kinnicutt, F. P. Prof. (3)		P. & S.	39 E. 35
Kirchwey, G. W. Prof. (2)	M. T. 2–3 W. 11.30–12.30	414 L.	605 W. 113
Kirchwey, M. F. Asst.		T.	605 W. 113
Knapp, C. Asst. (7)	M. W. F. 2–2.30	409 B.	1773 Sedgwick ave.
Knapp, H. Prof. (3)		P. & S.	26 W. 40
Krapp, G. P. Instr.		T.	128 W. 103
Kress, M. K. Curator (8)	M.–F. 2.30–5	610 H.	248 W. 42
Krystall, B. E. Clin. Asst. (9)		V. C.	53 E. 86
Larkin, J. H. Asst. (7)		P. & S.	498 W. 130
Lartigau, A. J. Tutor (6)		P. & S.	138 W. 56
Lathrop, A. B. Asst.		T.	1161 Amsterdam ave.
Lathrop, S. A. Asst.		T.	Fiske Hall
Laudy, L. H. Tutor (6)	Daily 9–5	313 H.	15 W. 65
Lawrence, M. S. Instr.		T.	250 W. 94
Leaming, E. Instr. (5)		P. & S.	117 W. 84
Lee, F. S. Adj. Prof. (3)		P. & S.	107 W. 74
Lefferts, G. M. Clin. Prof. (3)		P. & S.	212 Madison ave.
Lenher, V. Asst. (7)		516 H.	
Leshure, J. Clin. Asst. (9)		V. C.	187 Convent ave.
Lewis, R. Jr. Instr. (5)		P. & S.	48 W. 40.
Liggett, N. W. Bursar, Barnard College		B.	
Lloyd, F. E. Adj. Prof. (3)	M. T. Th. F. 11.30	T.	3132 Broadway
Lockwood, G. R. Instr. (5)		P. & S.	44 W. 49
Loiseaux, L. A. Tutor (6)	M. W. Th. 2.30	304 W.	106 W. 105
Long, E. Asst. (7)		P. & S.	69 W. 97
Lovell, E. B. Adj. Prof. (3)	Daily 11–11.30	508 E.	417 W. 118
Low, Seth, President (1)		213 L.	
Luddington, H. A. Asst.		T.	Fiske Hall
Luquer, L. McI. Tutor (6)	M. W. Th. F. 2.30–4	306 S.	321 W. 80
McBurney, C. Prof. (3)		P. & S.	28 W. 37
McCosh, A. J. Clin. Lect. (4)		P. & S.	16 E. 54
McCoy, J. J. Clin. Asst. (9)		V. C.	139 E. 57
McCrea, N. G. Instr. (5)	M. W. 11.30	309 C.	417 W. 118
McEvoy, J. P. Clin. Asst. (9)		V. C.	155 Lexington ave.
McGinnis, E. L'H. Asst. (7)		P. & S.	329 Amsterdam ave.
McGregor, J. H. Tutor (6)	M. F. 10.30–11.30	610 S.	417 Manhattan ave.
McHale, F. S. Clin. Asst. (9)		V. C.	317 E. 87
McHarg, L. Asst. (8)		509 E.	419 W. 118

NAME	OFFICE HOURS	OFFICE	RESIDENCE
McIlhiney, P. C. Asst. (7)			408 Third st., Bklyn.
McLane, J. W. Emer. Prof., and Dean School of Medicine (10)		P. & S.	51 W. 38
McMurry, F. M. Prof. (3)	M. W. Th. F. 11	T.	26 Hamilton Terrace
McRae, F. E. Asst.		T.	505 W. 112
McWhood, L. B. Tutor (6)	S. 12.30	315 W.	
MacDowell, E. A. Prof. (3)	S. 12.30	311 W.	2 W. 72
Maclay, J. Instr. (5)	T. Th. 2–2.30	404 C.	
Mallett, E. P. Clin. Asst. (9)		V. C.	65 W. 69
Mallett, G. H. Clin. Asst. (9)		V. C.	65 W. 69
Markoe, F. H. Instr. (5)		P. & S.	15 E. 49
Markoe, T. M. Emer. Prof. (10)			500 Madison ave.
Martin, W. Asst. Dem. (4)		P. & S.	63 E. 56
Mathews, J. A. Tutor (6)		P. & S.	4 First Place, Bklyn.
Matthews, B. Prof. (2)	Tu. 12. 30–1.30	502 F.	681 West End ave.
May, C. H. Instr. (5)		P. & S.	692 Madison ave.
Mayer, R. E. Instr. (4)	M.–F. 1.30–5	602 E.	
Mayo-Smith, R. Prof. (1)	M. W. F. 2.30–3.30	407 L.	305 W. 77
Meeker, H. E. Clin. Asst. (9)		V. C.	71 W. 114
Menut, E. Instr.		T.	560 Park ave.
Metcalf, E. Sec. to Dean, Barnard College		B.	Fiske Hall, Barnard
Metcalfe, J. T. Emer. Prof. (10)			Cold Spring, N. Y.
Michaelis, A. Clin. Asst. (9)		V. C.	63 E. 110
Miller, E. H. Instr. (5)	T.–F. 4.30–5.30	507 H.	312 Manhattan ave.
Miller, S. O. Asst. (7)	M.–F. 2–4	603 E.	West Nyack, N. Y.
Mills, J. M. Clin. Asst. (9)		V. C.	651 Madison ave.
Mitchell, H. B. Asst. (7)	M. W. F. 9.30–10.30	402 C.	Linden Hill, Flushing, N.Y.
Mitchell, S. A. Tutor (6)	T. Th. F. 9–10	606 F.	362 W. 118
Monroe, P. Adj. Prof.	M. W. 10–10.45 F. 11.30–12	T.	35 Caryl ave., Yonkers, N. Y.
Moore, J. B. Prof. (2)	M.–F. 9–4	411 L.	524 W. 150
Morgan, J. L. R. Tutor (6)	M.–F. 2–3	411 H.	New Brunswick, N. J.
Moses, A. J. Prof. (2)	M. T. Th. F. 11–12	307 S.	50 Maple ave., Morristown, N.J.
Munroe, H. S. Prof. (1)	T. Th. 2.30	409 E.	
Nelson, C. A. Deputy Librarian (xi)	Daily 9.30–5.30	L. Reading Room	510 W. 143

NAME	OFFICE HOURS	OFFICE	RESIDENCE
Neumann, W. F. Asst. (7)		P. & S.	114 E. 59
Nichols, W. H. Secy. Teachers College (xi)	M.–F. 9–5 S. 9–12	T.	543 W. 141
Nitze, W. A. Lect. (8)	T. 11.30–12.30	307 W.	128 W. 103
Norrie, V. H. Instr. (5)		P. & S.	21 W. 37
Oastler, F. R. Clin. Asst. (9)		V. C.	60 W. 56
Odell, G. C. D. Tutor (6)	W. 10–11 S. 9.30–10.30	505 F.	112 W. 81
Olcott, G. N. Lect. (8)	M. W. F. 11.30–12.30	308 C.	212 W. 108
Ordronaux, J. Emer. Prof. (10)			30 Broad
Osborn, H. F. Prof. (2)	T. 4	608 S.	850 Madison ave.
Osgood, H. L. Prof. (2)	T. Th. 4.30–5	410 W.	526 W. 150
Otis, F. N. Emer. Prof. (10)			5 W. 50
Page, C. H. Tutor (6)	Absent on leave		
Parker, C. T. Asst. (7)		P. & S.	17 E. 57
Parker, H. C. Tutor (6)	M. W. Th. 2.30–4.30	201 F.	21 Fort Greene Pl., Bklyn.
Partridge, W. T. Lect. (8)			176 W. 86
Paulmier, F. C. Asst. (7)	M. F. 9.30–12.30	617 S.	417 Manhattan ave.
Peabody, G. L. Prof. (1)		P. & S.	57 W. 38
Peck, H. T. Prof. (1)	T. Th. 10.30	301 C.	7 W. 43
Peck, M. R. Clin. Asst. (9)		V. C.	126 W. 81
Peele, R. Adj. Prof. (2)	T. Th. 11.30–12.30	408 E.	351 W. 114
Pellew, C. E. Adj. Prof. (3)	M. F. 2–2.30	409 H.	51 E. 54
Perry, E. D. Prof. (2)	M. W. 2.30	304 C.	133 E. 55
Peterson, F. Instr. (5)		P. & S.	4 W. 50
Pfister, J. C. Tutor (6)	T. Th. F. 9.30–10.30 11.30–12.30	614 F.	240 Sixth ave. (Roseville), Newark, N. J.
Pollok, A. Instr.		T.	309 W. 113
Poore, C. T. Clin. Lect. (4)		P. & S.	43 W. 53
Pratt, W. M. Asst.		T.	417 W. 118
Prettyman, V. Prin. Horace Mann School		T.	554 So. Broadway, Yonkers, N. Y.
Price, T. R. Prof. (1)	M.–Th. 1.30	509 F.	62 W. 39
Proben, C. I. Clin. Asst. (10)		V. C.	970 Lexington ave.
Prudden, T. M. Prof. (2)		P. & S.	160 W. 59
Pupin, M. I. Adj. Prof. (2)	M. W F. 11.30–12.30	203 E.	280 North Broadway, Yonkers, N. Y.
Putnam, E. J. Dean of Barnard College	M. F. 2	B.	245 W. 75
Putnam, W. Lect. (8)	Tu. 2.30–3.30	505 F.	608 W. 113

NAME	OFFICE HOURS	OFFICE	RESIDENCE
Quackenbos, J. D. Emer. Prof. (10)			331 W. 28
Ransom, C. C. Clin. Asst. (10)		V. C.	152 W. 48
Rathbone, C. C. Clin. Asst. (10)		V. C.	50 W. 47
Rea, M. G. Asst.		T.	
Reeder, R. R. Instr.		T.	210 So. 5th ave., Mt. Vernon, N. Y.
Rees, J. K. Prof. (1)	M.–Th. 2.30–3.30	610 F.	1 W. 72
Remy, A. F. J. Asst. (7)	T. 1.30–2.30	408 W.	112 W. 137
Reynolds, W. S. Clin. Asst. (10)		V. C.	54 W. 94
Richards, A. N. Asst. (7)		P. & S.	45 W. 60
Richards, C. R. Prof. (3)	M. W. Th. 3.30–4.30	T.	230 W. 105
Richards, H. M. Instr. (5)			
Ricketts, P. de P. Prof. (1)	Absent on leave		
Ripley, W. Z. Prize Lect. (8)			
Robbins, I. E. Asst.		T.	417 W. 118
Robinson, J. H. Prof. (3)	T. Th. 10–10.30 W. F. 3.30–4	403 L.	170 W. 85
Robinson, W. S. Instr.		T.	202 W. 74
Rockwell, W. H. Jr. Asst. Dem. (4)		P. & S.	109 W. 78
Rogers, J. D. Asst. (7)	M. W. F. 3.30–4	306 C.	214 Lenox ave.
Rogers, M. Instr.		T.	138 W. 93
Rood, O. N. Prof. (1)	M. 10.30 F. 12.30	307 F.	
Rouillion, L. Instr.		T.	601 W. 132
Runyan, M. D. Prof.	M. T. W. F. 11.30	T.	417 W. 118
Russell, J. E. Prof., and Dean, Teachers College (3)	M.–F. 11.30 T. Th. 3.30	T.	317 W. 103
Salter, J. S. Instr.		T.	
Savage, W. L. Dir. Gym. (xi)	M.–F. 9–10.30 M. Th. 5–6	U.	429 W. 117
Scherr, E. W. Jr. Asst. (7)	Daily except Tu. 2.30–5.30	401 H.	2067 Seventh ave.
Schenck, A. V. D. Asst.		T.	165 Lenox ave.
Schüssler, A. Asst.		T.	474 W. 150
Seligman, E. R. A. Prof. (1)	T. Th. 3–3.30	409 L.	324 W. 86
Sever, G. F. Instr. (4)	Daily 9.30–5.30	504 E.	115 W. 47
Seward, J. P. Exam. Phys.		T.	113 W. 85
Seward, M. Instr.		T.	113 W. 85
Shepherd, W. R. Lect. (8)	T. Th. 2.30	406 W.	
Sherman, F. D. Adj. Prof. (2)	Th. F. 2.30–4.30	603 H.	312 South Broadway, Yonkers, N. Y.
Sherman, H. C. Lect. (8)	W. Th. F. 2.30–3.30	505 H.	419 W. 117
Shrady, A. M. Clin. Asst. (10)		V. C.	1 W. 68
Silver, L. M. Clin. Asst. (10)		V. C.	103 W. 72
Simpson, W. K. Instr. (5)		P. & S.	952 Lexington ave.

NAME	OFFICE HOURS	OFFICE	RESIDENCE
Sleffel, C. C. Instr. (5)		T.	554 W. 125
Sloane, W. M. Prof. (3)			
Smith, M. Prof. (1)	Absent on leave		
Snelling, G. T. Instr. (4)			
Sondern, F. E. Clin. Asst. (10)		V. C.	200 W. 56
Speranza, C. L. Adj. Prof. (3)	M. W. F. 10.30		
	T. Th. 3.30	305 W.	155 E. 72
Spingarn, J. E. Asst. (7)	W. 10.30–11.30	511 F.	118 E. 58
Starr, M. A. Prof. (2)		P. & S.	5 W. 54
Stein, J. B. Clin. Asst. (10)		V. C.	
Stevens, E. Y. Instr.	Absent on leave	T.	
Stewart, C. C. Tutor (6)		P. & S.	210 W. 80
Stiefel, B. W. Clin. Asst. (10)		V. C.	127 E. 73
Stokes, H. S. Clin. Asst. (10)		V. C.	32 E. 53
Stone, H. F. Lect. (8)	M. T. 5.30–6		
	Th. F. 11.30–12		912 West End ave.
Stone, W. S. Instr. (5)		P. & S.	1730 Broadway
Strong, C. A. Lect. (8)	Daily 12	409 S.	Buckingham Hotel
Strong, O. S. Tutor (6)	T. Th. 12–12.30	612 S.	417 Manhattan ave.
Sumner, A. E. Clin. Asst. (10)		V. C.	43 W. 26
Sutherland, L. C. Asst.		T.	Fiske Hall
Swift, G. M. Instr. (5)		P. & S.	20 W. 55
Taylor, A. S. Clin. Asst. (10)		V. C.	152 W. 57
Taylor, R. W. Clin. Prof. (3)		P. & S.	40 W. 21
Terrell, A. G. Clin. Asst. (10)		V. C.	406 W. 57
Terry, C. T. Lect. (8)	M. T. Th. F. 4.15–4.30 5.30–6	414 L.	14 Central Park, W.
Thacher, J. S. Dem. (4)		P. & S.	33 W. 39
Thomas, C. Prof. (3)	W. F. 10.30–11.30	310 W.	501 W. 113
Thomas, T. G. Emer. Prof. (10)			600 Madison ave.
Thorndike, E. L. Instr.	M. 2–4, T. Th. 10.30–11.30	T.	530 W. 123
Todd, H. A. Prof. (2)	M. W. 4.30	303 W.	824 West End ave.
Tombo, R. Tutor (6)	T. Th. 11.30–12.30	408 W.	2 Ridge Pl.
Trenwith, W. D. Clin. Asst. (10)		V. C.	140 W. 94
Townsend, F. Tutor (6)	Daily 9.30–11.30	505 E.	173 5th ave.
Trowbridge, C. C. Tutor (6)	M. W. F. 11.30–12.30	401 F.	13 E. 46
Tucker, E. A. Tutor (6)		P. & S.	110 W. 57
Tucker, S. A. Tutor (6)	M. F. 9.30–5	421 H.	110 E. 31
Tufts, F. L. Tutor (6)	T. Th. 10.30–11.30	303 F.	419 W. 117
Tuttle, G. M. Prof. (1)		P. & S.	38 W. 52
Tyson, H. H. Clin. Asst. (10)		V. C.	47 W 51
Underhill, J. G. Asst. (7)	T. Th. 12.30	511 F.	97 Lafayette ave., Bklyn.

NAME	OFFICE HOURS	OFFICE	RESIDENCE
Underwood, L. M. Prof. (3)	M. F. 10.30–12.30	506 S.	
Van Amringe, J. H. Prof., and Dean, Columbia Coll. (1)	M. W. 1.30	205 C.	204 W. 44
Van Arsdale, M. B. Instr.		T.	505 W. 112
Van De Water, G. R. Chapl. (xi)	T. Th. 10–12	415 W.	7 W. 122
Van Gieson, I. T. Instr. (4)		P. & S.	1 Madison ave.
van Ingen, G. Curator (8)	M. W. F. 10.30–11.30	101 S.	408 W. 115
Viehl, G. Instr.		T.	3610 Broadway
Von Saltza, C. F. Instr.		T.	
Voorhees, J. D. Instr. (5)		P. & S.	457 W. 59
Vosburgh, A. S. Asst. Dem. (4)		P. & S.	40 W. 88
Vulté, H. T. Instr. (5)		P. & S.	33 Park ave., New Rochelle, N. Y.
Wadsworth, A. B. Asst. (7)		P. & S.	112 W. 55
Walker, J. B. Asst. Instr. (5)		P. & S.	33 E. 33
Walker, S. G. Head of Fiske Hall		B.	Fiske Hall, Barnard
Waller, N. B. Clin. Asst. (10)		V. C.	
Ware, W. R. Prof. (1)			
Warren, C. P. Tutor (6)	T. 9.30–10.30	602 H.	48 W. 9
Warren, G. W. Lect. and Organist (xi)	M.–F. 8.50–9.30	305 S.	40 W. 59
Watters, L. L. Asst. (7)			153 E. 56
Watterson, A. Asst.		B.	153 W. 84
Weick, C. W. Instr. (6)		T.	554 W. 125
Weir, R. F. Prof. (2)		P. & S.	37 W. 33
Wells, J. S. C. Instr. (4)	T. Th. 2–3	513 H.	
Welzmiller, L. R. Clin. Asst. (10)		V. C.	157 W. 80
Wheeler, J. R. Prof. (3)	M. W. 10.30	304 C.	433 W. 117
Whitaker, M. C. Tutor (6)	T. F. 9–1 W. 9–5	303 H.	252 W. 121
White, T. G. Asst. (7)	M. T. Th. F. S. 9.30–12.30 Tu. Th. 1.30–5	210 F.	121 Madison ave.
Whitlock, H. P. Asst. (7)		106 S.	449 Park ave.
Whitman, R. Instr. (5)		P. & S.	126 W. 59
Willard, M. W. Asst.		T.	150 W. 103
Wilcox, E. N. Asst. (7)		P. & S.	43 W. 75
Williamson, E. L. Clin. Asst. (10)		V. C.	105 W. 74
Wilson, E. B. Prof. (2)	T. F. 10–12	609 S.	305 W. 78
Wilson, O. R. Asst. (7)			
Winchester, M. C. Asst.		T.	Hotel Endicott, 81 st st. and Columbus ave.
Wissler, C. Asst. (5)	M. W. 11.30	412 S.	505 W. 125
Wohlfarth, J. H. Asso. Prin. H. M. School	M. F. 12–1	T.	Fiske Hall
Wood, F. C. Instr. (5)		P. & S.	8 E. 49
Woodberry, G. E. Prof. (2)	M. W. F. 11.30	511 F.	5 E. 17

NAME	OFFICE HOURS	OFFICE	RESIDENCE
Woodhull, J. F. Prof. (1)	M.–F. 3.30–4.30 S. 11.30–12.30	T.	Caryl ave., Yonkers, N. Y.
Woolman, M. S. Adj. Prof.	M. 9.15–10, T. Th. 10.45–11.30	T.	21 W. 101
Woodward, B. D. Instr. (4)	Absent on leave		
Woodward, R. S. Prof., and Dean School of Pure Science (2)	M. W. F. 11.30–12.30 M. Th. 3.30–4.30	406 F. 603 F.	408 W. 145
Woolson, I. H. Instr. (4)	M.–F. 9.30–5	308 E.	201 Franklin st., Astoria, L. I.
Yohannan, A. Lect. (8)	T. Th. 2–3	402 W.	138 E. 48
Young, C. H. Instr. (4)	Tu. 2–2.30	306 C.	312 W. 88

DIRECTORY OF STUDENTS

The italic letter following the name indicates the school in which the student is primarily registered—as follows:

b Barnard College
c Columbia College
l School of Law
m School of Medicine
p School of Pure Science
ph School of Philosophy
pl School of Political Science
s Schools of Mines, Chemistry, Engineering, and Architecture
t Teachers College

The numbers 1, 2, 3, and 4 preceding these letters indicate the class; sp, special student; gr, graduate student.

Aarons, S. H. 1 *l* 130 E. 76
Abbe, W. 2 *l* 419 W. 118
Abbott, C. G. 1 *c* 336 W. 71
Abbott, T. J. 4 *m* 28 E. 28
Abel, S. 1 *m* 234 E. 6
Abelson, P. *pl* 250 Henry st.
Abraham, H. 1 *s* 13 W. 89
Abreu, L. G. 1 *s* 61 W. 115
Acheson, N. S. *t* 417 W. 118
Acken, G. A. 2 *l* Demarest, N. J.
Ackerman, W. A. *t* 1270 Amsterdam ave.
Acton, H. W. 1 *l* 82 W. 132
Adams, C. B. 4 *m* 400 W. 57
Adams, H. W., Jr. 3 *l* 18 W. 102
Adams, J. B. 1 *l* 23 W. 10
Adams, J. K. 2 *m* 127 W. 61
Adams, M. T. 2 *s* 273 West End ave.
Adams, P. A. 1 *m* 33 W. 65
Addoms, J. A. 1 *b* 270 McDonough st., Bklyn
Adelsohn, J. 3 *m* 130 W. 112
Adenaw, A. P. F. 3 *s* 116 E. 26
Adler, H. M. 3 *m* 12 E. 60
Agate, F. J. 1 *c* 280 N. B'way, Yonkers, N. Y.
Agatstein, S. A. 4 *m* 7 W. 118
Albers, H., Jr. 1 *l* 240 Decatur st., Bklyn
Alexander, A. J. A. 3 *m* 116 W. 64
Alexander, D. E. 4 *m* 62 E. 126
Alexander, G. M. 1 *m* 132 W. 111
Allan, A. R. sp *c* 371 W. 123
Allen, D. G. 1 *m* 107 W. 69
Allen, E. 2 *b* Fiske Hall
Allen, E. DeL. *t* 417 W. 118
Allen, T. H. 1 *c* 322 St. Nicholas ave.
Allen, W. C. *t* 336 W. 48
Allen, W. F. 1 *c* 462 W. 145
Allen, W. K. 3 *l* 10 E. 115
Allen, W. T. 4 *m* 154 Lorimer st., Bklyn
Aller, K. L. sp *b* Mount Vernon, N. Y.
Alline, A. L. sp *t* Bklyn
Alsberg, C. L. 4 *m* 40 W. 94
Alsberg, E. 2 *b* 40 W. 94
Alsberg, H. G. 4 *c* 40 W. 94
Alsberg, J. 3 *s* 40 W. 94
Alter, J. E. 3 *m* 167 E. 94
Ambler, N. B. 4 *s* 344 W. 33
Ames, E. H. 1 *m* 37 Clinton ave., Jersey City, N. J.
Anderson, J. W. 3 *l* 564 Henry st., Bklyn
Anderson, R. W. K. 2 *l* 367 W. 116
Andrews, B. F. 2 *m* 352 W. 55
Andrews, G. gr *b* 125 E. 57
Andrews, W. B. 1 *m* 352 W. 55
Andrews, W. S. sp *ph* University Club, 5th ave. and 54th st.
Ansley, G. H. 1 *l* 343 W. 121
Anspacher, L. K. 1 *l* 77 E. 116
Aplington, H. W. 2 *s* 143 W. 85
Appel, F. J. *t* 2299 7th ave.
Appleton, F. *pl* Plainfield, N. J.
Arens, M. 2 *l* 209 50th st., So. Bklyn

Armstead, D. M. 2 *s* 614 W. 113
Armstrong, D. 3 *c*
15 Westfield ave., Rahway, N. J.
Armstrong, H. 3 *s* 227 W. 122
Armstrong, L. D. 1 *l* 9 W. 75
Armstrong, L. E. 2 *l* 252 W. 121
Arnegard, K. 3 *l* 310 W. 123
Arnold, W. W. *ph* 66 W. 53
Aronson, D. A. 2 *l* 43 E. 75
Aronson, J. J. 2 *l* 241 E. 116
Asch, D. 1 *c* 114 W. 64
Asch, J. J. 2 *m* 780 Lexington ave.
Ashley, R. E. 2 *s* 322 W. 113
Assenheimer, E. M. 1 *m* 323 E. 51
Atkins, G. C. 2 *c* Bayonne, N. J.
Atwood, T. *t* 608 Lexington ave.
Austin, A. S. 1 *s* 300 Manhattan ave.
Averill, F. C. 2 *l* 264 W. 107
Averill, M. K. 2 *l* 7 W. 120

Babbitt, D. R. *pl* McDonough and Tompkins ave., Bklyn
Bacon, D. R. 1 *c* 106 W. 81
Bacon, L. A. *t* 218 W. 39
Baer, D. *t* 203 W. 117
Baer, H. M. 3 *s* 60 W. 47
Baff, M. 2 *m*
96 Wallace st., Newark, N. J.
Baghdassarian, M. A. sp *t* 522 W. 123
Bailey, J. McC. 3 *l* 196 Lenox ave.
Bainton, J. H. 3 *m* 75 W. 68
Baird, A. W. 3 *m* 239 W. 70
Baird, W. E. 1 *l* 305 W. 112
Baker, C. A. 1 *l* 294 Manhattan ave.
Baker, C. F. 2 *m*
250 Mulberry st., Newark, N. J.
Baker, E. W. 3 *c* 119 W. 121
Baker, F. R. 1 *m* 116 W. 64
Baker, H. J. *t* 294 Manhattan ave.
Baker, L. B. 2 *l* 2684 Broadway
Baldwin, F. T. 4 *b* 417 W. 118
Baldwin, W. S. 1 *s* Nyack, N. Y.
Ball, A. P. *ph*
85 Aycrigg ave., Passaic, N. J.
Ball, C. E. A. 1 *m*
South Orange, N. J.
Ball, M. E. P. *t* 315 W. 119
Ballin, M. J. 4 *m* 73 E. 91
Bama, L. 1 *m* 1962 Amsterdam ave.
Bambach, G. F. 1 *c* 982 6th ave.
Bamberger, A. C. J. 1 *b* 152 W. 73
Bamberger, E. sp *s* 215 W. 80
Bamberger, S. M. sp *c*
Care Mayer, 153 E. 56
Bancroft, J. 2 *c* 694 Madison ave.
Bandler, C. G. 3 *c* 1050 Boston rd.
Bandler, L. 4 *m* 140 E. 71
Bandler, M. E. 3 *c* 140 E. 71
Banta, E. W. 4 *m* 157 W. 14
Banta, H. W. sp *m*
Hackensack, N. J.
Banta, M. gr *b* 344 W. 131
Bard, E. R. 4 *s* 273 W. 11
Barker, P. M. 1 *c* 160 W. 59
Barker, S. 3 *c* 339 W. 71
Barlow, E. S. 4 *s* 419 W. 118
Barlow, H. S. *t*
Barnard, E. L. 3 *l* 20 W. 130
Barnes, H. 1 *m*
Barnes, H. J. *t*
Barnes, M. W. sp *b* 1 W. 81
Barnes, N. W. 1 *c*
Barrett, A. I. *t* 26 Remsen st., Bklyn
Barrett, H. H. 2 *m* 119 W. 96
Barrett, J. M. 1 *l* 10 W. 90
Barrick, M. O. 3 *b*
44 Williams st., Jersey City, N. J.
Barrick, W. 4 *b*
44 Williams st., Jersey City, N. J.
Barris, B. L. *t* 526 W. 123
Bartberger, E. W. 3 *s*
483 Manhattan ave.
Bartholomae, H. J. 1 *l* 270 W. 75
Bartholomew, R. B. 1 *c* 49 5th ave.
Bartlett, H. L. sp *t* 159 W. 86
Barton, B. G. sp *m* 661 E. 141
Barton, F. W. 3 *m* 139 W. 63
Bartow, C. W. 2 *c*
38 Wardell st., Astoria, L. I.
Bassett, J. 2 *c* 36 Morningside ave.
Bates, A. B. gr *b* 312 Manhattan ave.
Bates, J. G. 1 *c* 113 W. 72
Bates, L. W. 4 *s*
80 Columbia Heights, Bklyn
Bateson, C. E. W. 2 *s* 257 W. 88
Bateson, R. H. sp *c* 257 W. 88
Bauchelle, J. F. 1 *s* 76 Park place
Bauer, G. L. *p* 227 W. 122
Baum, J. M. 3 *l* 326 E. 50
Bauman, L. 3 *m* 342 E. 8
Baumgarten, C. 2 *s* 312 E. 70
Bausman, C. G. sp *pl* 41 E. 69
Bavetta, V. *ph* 127 Prospect pl., Bklyn
Baxter, F. E. 3 *c* 237 W. 76
Baxter, W. P. 3 *l* 237 W. 76
Bayles, H. 3 *m* White Plains, N. Y.
Bayley, J., Jr. *t* 1842 7th ave.
Bayne, H. 3 *s*
Riverside Drive, cor. 108th st.
Beach, R. M. 2 *m* 434 6th st., Bklyn
Beakes, R. O. 1 *l*
Beardsley, L. A. *t*
929 Amsterdam ave.
Beattie, W. H. 1 *m* 116 W. 64
Bebee, E. L. 4 *m* 447 W. 57
Bechert, A. O. 1 *c*
118 Jefferson st., Bklyn
Beck, S. S. 1 *m* 326 E. 4

Beckhardt, M. *ph* 333 E. 119
Bedell, E. G. *t* 404 W. 124
Beegle, M. P. *t* 20 W. 19
Beekman, C. C. 1 *l* 2043 7th ave.
Beekman, H. R. 1 *c* 35 W. 17
Beer, A. 3 *b* 38 W. 77
Beers, W. F., Jr. 3 *c*
San Remo Hotel
Beers, W. H. 1 *s* Mamaroneck, N. Y.
Behrens, S. H. sp *t*
Boston road and 174th st.
Belcher, F. E. 2 *b* 126 So. 8th ave., Mount Vernon, N. Y.
Belcher, H. J. B. 2 *m* Paterson, N. J.
Belcher, M. *t* 74 W. 124
Belcher, S. D. gr *b* 542 5th ave.
Bell, H. W. 2 *m* 112 E. 64
Beller, W. C. *t* 55 E. 112
Benedict, A. C. 3 *m* 86 Convent ave.
Bennet, S. *t* 26th Ward Bank Bldg., Bklyn
Bennett, A. L. 4 *b*
253 State st., Hackensack, N. J.
Bennett, H. W. N. 2 *m*
129 Lexington ave.
Bennett, W. C. 2 *l*
Bensel, W. A. 3 *c* 111 W. 126
Bensley, B. A. *p* 102 W. 94
Bentz, G. H. 2 *m* 309 E. 86
Benziger, B. A. 1 *l*
New Brighton, S. I.
Bergen, E. G. 3 *b*
135 Garfield place, Bklyn
Berliner, R. W. 3 *s* 145 W. 78
Bernheim, G. B. 3 *s* 74 E. 79
Bernstein, E. P. 4 *m* 227 E. 116
Bernstein, G. W. 1 *s* 106 E. 19
Berrien, C. L. 1 *s* 319 W. 116
Berry, E. 3 *b* 80 So. Walnut st., East Orange, N. J.
Bertholf, E. M. *t* Englewood, N. J.
Bertholf, K. I. *t* 300 W. 113
Berwald, E. S. *t* 234 W. 122
Betowski, L. S. 2 *m* 139 W. 61
Beveridge, J. W. 3 *m* 208 W. 72
Beyer, A. H., Jr. 1 *s*
510 Warwick st., Bklyn
Beyer, R. P. 1 *l* 511 E. 117
Bice, H. H. sp *ph* 417 W. 114
Bieber, J. 4 *m* 113 Cannon st.
Bigelow, L. S. sp *ph* 136 W. 91
Biglow, L. C. 1 *s* 511 W. 145
Bigongiari, D. 1 *c*
131 Sands st., Bklyn
Bill, P. W. 3 *m* 316 W. 57
Binder, R. M. *ph* 417 E. 13
Bing, A. M. 3 *l* 21 W. 88
Bingham, A. W. 4 *m*
843 West End ave.
Bingham, L. M. 4 *c* 48 W. 94
Birnbaum, M. 2 *l* 169 E. 88
Bishop, O. M. 1 *s* 881 5th ave.
Bishop, R. N. 2 *s* 419 W. 117
Bissell, H. M. 1 *l* 417 W. 114
Black, J. F. J. 4 *m* 318 W. 57
Blackford, U. G. 3 *l*
896 West End ave.
Blackwell, F. E., Jr. 1 *l* 32 W. 75
Blake, M. *t* Jersey City, N. J.
Bleich, S. D. 2 *s* 129 Cannon st.
Bliss, R. F. 3 *m*
233 Cumberland st., Bklyn
Bloch, B. I. 1 *l* 89 W. 134
Block, M. 1 *m* 222 E. B'way
Block, S. J. 4 *c* 86 E. 111
Blood, A. P. *t* 417 W. 118
Blood, M. D. 1 *m*
155 Plane st., Newark, N. J.
Bloodgood, L. D. 3 *b*
320 Clermont ave., Bklyn
Bloomingdale, R. gr *b* 11 E. 67
Blossom, M. 4 *b* 417 W. 117
Blue, J. H. 3 *m* 122 W. 64
Blumenthal, E. 2 *l* 20 W. 72
Blumenthal, J. L. 4 *m* 254 W. 55
Blumgart, L. 1 *m*
266 S. Orange ave., Newark, N. J.
Blumlein, M. 2 *c* 10 E. 130
Boardman, S. S. 1 *l* 40 W. 53
Bock, R. sp *m* 246 E. 72
Bodenheimer, M. 1 *m* 336 E. 50
Boehm, A. A. 3 *c* 41 W. 89
Boehm, N. A. 3 *s* 41 W. 89
Boese, W. H. 3 *c* Care Fagen, 979 8th ave.
Boetzkes, E. H. gr *b*
Bensonhurst, N. Y.
Bogart, P. N. 1 *l* 77 W. 102
Bogart, S. H. *t* 2033 Washington ave.
Bogia, S. H. 1 *b*
106 Gregory ave., Passaic, N. J.
Bogue, F. T. 1 *c*
836 Union st., Bklyn
Bogue, M. G. 3 *c*
Riverside Drive and 116th st.
Bohm, O. H. 3 *m* Unionville, N. Y.
Boisse, P. S. 1 *c* 137 E. 73
Bolduan, C. E. *t* 226 Glenmore ave., Bklyn
Bolduan, C. F. 3 *m*
226 Glenmore ave., Bklyn
Bole, S. M. sp *t*
Bolte, H. A. 3 *l* 2059 Anthony ave.
Bonnell, C. H., sp *m* 71 W. 49
Bonsall, V. F. M. 3 *c* 160 W. 95
Book, D. D. *p* 159 Washington park
Bookman, A. 3 *m* 9 E. 62
Boone, C. L. *t* 343 W. 121

Boone, E. W. 3 *c* 3133 B'way
Boote, E. 1 *h*
128 Webster ave., Yonkers, N. Y.
Booth, F. H. 2 *m* Newtown, L. I.
Borden, J. H. 1 *m* 46 W. 130
Borden, W. H., Jr. 3 *s* 120 W. 98
Bordwell, W. P. *pl* 202 W. 105
Borghard, J. F., Jr. 1 *m*
152 B'way, Bklyn
Boroschek, L. *p* 149 E. 56
Bos, G. A. 3 *s* 230 W. 18
Bosse, K. K. *ph* 24 W. 8
Botts, E. T. 1 *l* 251 W. 116
Botty, G. M. 2 *l* 319 E. 86
Boughton, W. *t*
Bourke, J. F. 1 *m* 144 W. 12
Bouton, A. L. *ph*
Bowdish, L. 3 *c* City Island, N. Y.
Bowman, G. S. *pl* 49 W. 21
Bowman, J. F. 4 *c* Montclair, N. J.
Bowman, L. *t* 1161 Amsterdam ave.
Bowne, S. W. 3 *c* Hotel Majestic
Boyd, C. M. sp *b* 170 W. 81
Boyd, W. B. sp *m* 40 Perry st.
Boyesen, A. K. 1 *c* Southampton, L. I.
Boyesen, H. H. 2d, 4 *c* 61 E. 52
Boylan, P. J. 1 *l* 29 W. 119
Bracken, M. F. *t* 528 W. 123
Bracker, M. H. 2 *m* 97 2d ave.
Brackin, C. C. 1 *s* 419 W. 117
Bradbury, R. R. sp *s*
Upper Montclair, N. J.
Bradley, A. 1 *m* Sing Sing, N. Y.
Bradley, A. 1 *s* 42 W. 84
Bradley, A. B. A. 2 *c* 304 W. 83
Bradley, J. A. 2 *s* 351 W. 119
Bradley, W. A. *ph* 187 Lenox ave.
Bradshaw, W. F., Jr. 1 *l* 343 W. 56
Brandon, V. I. 3 *s* 40 W. 89
Brater, A. W. sp *s*
76th st. and Park ave.
Braun, A. 2 *m* 121 E. 112
Braun, W. A. *ph* 246 W. 114
Breckwedel, H. B. 4 *m* 315 W. 48
Breneman, H. C. 2 *s* 619 W. 123
Brennglass, J. 1 *m* 1478 1st ave.
Brettauer, J. sp. *p* 45 E. 64
Brewster, G. F. sp. *m* 353 W. 30
Brickelmaier, A. G. *t*
639 Carleton ave., Bklyn
Brickner, S. M. sp *p* 136 W. 85
Bridgart, L. J. *t*
11 Magnolia ave., Jersey City, N. J.
Bridge, G. A. 2 *m* 144 W. 65
Bridgman, A. T. sp *t* 157 W. 123
Briesen, H. 3 *s* Weehawken, N. J.
Briggs, H. A. *pl* 41 E. 69
Briggs, H. S. sp *ph* 124 W. 112
Briggs, W. P. 4 *s* 2301 7th ave.
Briggs, Y. 1 *c* 1 Nassau st.
Brigida, J. *ph* 209 W. 115
Brill, J. 2 *l* 33 Palmetto st., Bklyn
Brimmer, G. E. 2 *l* 252 W. 121
Brinckerhoff, E. V. *t*
Brinckerhoff, H. C. 1 *c*
10 W. 4th st., Mt. Vernon, N. Y.
Brinsmade, D. B. 4 *m* 135 W. 64
Britenstool, H. 3 *m*
783 Lexington ave.
Britt, A. *pl* 137 W. 103
Britton, H. B. 3 *s* 255 W. 75
Brodie, O. L. 3 *s*
483 Manhattan ave.
Brooke, W. W. 4 *m*
915 Ave. C, Bayonne, N. J.
Brooks, J. L. *ph* Madison, N. J.
Brooks, R. H. 4 *c* 369 W. 120
Brophy, W. J. 1 *m* 328 W. 32
Bross, W. W. 2 *l* 337 E. 118
Brower, F. D. 2 *c*
109th st. and Riverside Drive
Brown, A. J. 1 *m* 36 E. 69
Brown, A. McD. sp *c* 401 W. 127
Brown, B. 2 *b* Flushing, L. I.
Brown, C. 3 *s* 257 W. 91
Brown, C. A. sp *m* 321 E. 20
Brown, E. L. 2 *s* 614 W. 152
Brown, F. E. 1 *m*
591 Hancock st., Bklyn
Brown, H. A. 4 *s* 314 W. 115
Brown, H. S. (Mrs. C. E.) sp *b*
7 W. 65
Brown, M. C. gr *b* 35 W. 130
Brown, S. 2 *m* 158 W. 65
Brown, S. 2 *s* 257 W. 91
Brown, S. J. *t*
47 Van Buren st., Bklyn
Brown, T. E. W. 4 *m*
Browne, J. 4 *c* 207 W. 16
Bruce, E. B. 2 *c*
So. B'way, Yonkers, N. Y.
Brueninghausen, H. W. 4 *c*
151 Berkeley place, Bklyn
Brummer, S. D. *pl* 1356 Madison ave.
Brundage, H. D. *t* 315 W. 115
Brush, J. W. sp *t* 410 W. 119
Brussel, L. M. 1 *c* 10 E. 81
Bryant, E. E. *t*
320 Manhattan ave.
Bryant, R. R. 3 *m* 143 W. 61
Brydges, R. L. *ph* Islip, N. Y.
Bryson, E. F. gr *b* 164 W. 73
Bryson, R. S. 1 *l* 444 Manhattan ave.
Buchholz, G. W. 3 *s* 312 W. 86
Buchler, W. P. 3 *c*
Hotel St. Lorenz, 72d st.
Buchtel, F. C. 3 *m*
East Orange, N. J.

Buckmaster, F. C. 1 *s*
Yonkers, N. Y.
Budd, M. H. 2 *b* 19 W. 102
Budington, E. G. 2 *c* 222 W. 123
Budington, R. A. *p*
993 Amsterdam ave.
Buerger, L. 3 *m* 164 W. 133
Buffington, M. 3 *b* Milburn, N. J.
Buffington, R. E. 3 *m*
Short Hills, N. J.
Bugbee, H. G. 1 *m* 318 W. 57
Bühler, J. S. 3 *c* 371 W. 123
Bulkley, H. D. 3 *c* 4 E. 37
Bulkley, J. E. 1 *m* 787 Madison ave.
Bulkley, L. C. 3 *m* 4 E. 37
Bullard, O. 2 *c* 419 W. 118
Bullowa, J. G. M. 1 *m* 46 E. 66
Bullowa, R. J. M. sp *pl* 46 E. 66
Burd, C. G. *pl* 50 E. 70
Burdick, C. G. 1 *m* 318 W. 57
Burdick, H. H. sp *c* 369 W. 120
Burford, M. G. 1 *m*
83 S. 9th st., Bklyn
Burke, E. *ph* 220 E. 49
Burlingame, F. A. 3 *l* 22 E. 78
Burns, D. J. 4 *s* 423 W. 117
Burns, S. F. sp *t* 77 W. 45
Burrell, N. M. 1 *l* 248 W. 75
Burrows, W. F. 3 *c*
138 Chilton st., Elizabeth, N. J.
Burt, H. R. 3 *s* 608 W. 113
Burt, J. C. sp *m* 116 W. 61
Busck, G. J. 2 *m* 28 E. 20
Bush, H. S. sp *s* 304 W. 115
Bush, M. W. 1 *m* 102 W. 44
Busse, F. A. 1 *s* 522 W. 125
Bussell, R. J. *t* 69 W. 44
Bussmann, A. H. 2 *s*
186 Chestnut st., Bklyn
Butler, E. R. sp *b* 119 E. 30th
Butler, G. H. 1 *c* 964 5th ave.
Butts, A. C., Jr. 2 *m* 1004 Trinity ave.
Byers, R. T. 2 *l* 327 W. 112
Byington, R. 4 *m* 150 W. 66
Byrnes, C. sp *b* 446 E. 72
Byron, T. P. 3 *c* Hotel Manhattan

Cabot, G. D. 1 *s* 126 W. 48
Cahn, A. G. 1 *b* 16 W. 131
Cairns, D. W. 3 *m* 40 Grove st.
Caldwell, A. sp *c* 2079 7th ave.
Caldwell, J. C. sp *c* 2079 7th ave.
Cameron, M. E. H. 3 *b*
Woodside, N. Y.
Campbell, E. P. 1 *b*
Fiske Hall, Barnard
Campbell, J. sp *t* 266 W. 40
Cane, M. H. 4 *c* 62 E. 80
Cannon, J. R. 1 *m*
Irvington-on-Hudson, N. Y.
Cantle, H. C. 1 *m* 354 W. 24
Capen, E. W. *pl* 428 W. 57
Capito, G. B. 1 *m*
Carberry, S. P. *t* 1161 Amsterdam ave.
Cardozo, E. A. 1 *l* 45 E. 65
Cardozo, M. H., Jr. 3 *c* 45 E. 65
Carey, R. W. 2 *c* 205 W. 85
Carhart, E. M. *t* 1161 Amsterdam ave.
Carll, L. A. 2 *b* Whitestone, N. Y.
Carman, C. E. A. sp *b* 5 W. 82
Carman, E. K. *t*
17 Gould ave., Newark, N. J.
Carpender, J. N., Jr. 2 *m* 352 W. 58
Carr, S. D. 3 *l* 417 W. 117
Carrington, W. 2 *s*
801 High st., Newark, N. J.
Carter, J. P. 2 *c* 130 E. 24
Carter, N. McL. 1 *m*
Huntington, L. I.
Cary, J. W. sp *s* 314 W. 115
Casamajor, A. gr *b*
372 Greene ave., Bklyn
Casamajor, L. 1 *c*
372 Greene ave., Bklyn
Case, G. D. sp *s* 531 Manhattan ave.
Cassard, W. J., Jr. 4 *s* 139 W. 70
Cassebeer, H. A., Jr. 4 *m* 205 W. 70
Catlin, H. E. 3 *b* 456 Franklin st.,
Bloomfield, N. J.
Cattell, A. G. sp *m* 62 W. 102
Celler, H. L. 4 *m* 61 W. 94
Chace, A. F. 1 *m* 141 W. 63
Chamberlain, W. I. *t* 25 E. 22
Chancellor, C. H. 2 *m*
720 St. Nicholas ave.
Chandor, V. L. *t*
330 E. 5th st., Plainfield, N. J.
Chapin, C. B. sp *b* Englewood, N. J.
Chapin, E. C. 2 *b* 274 N. Fulton ave.,
Mount Vernon, N. Y.
Chapman, E. L. *t* 19 E. 127
Charlton, H. R. 3 *m*
306 S. 6th ave., Mt. Vernon, N. Y.
Chase, J. A. 1 *m* 143 W. 61
Chase, J. H. *pl* 50 E. 70
Chase, M. L. sp *b* Scarsdale, N. Y.
Cheesman, F. P. 1 *b* 171 W. 95
Chetouny, A. E. 2 *c* 696 E. 135
Chibas, L. S. F. 2 *m* 43 W. 60
Chickering, E. C. *ph*
28 Smith st., Jamaica, L. I.
Child, A. T. gr *s* 218 Lenox ave.
Chollet, C. *ph* 142 W. 96
Christmann, A., Jr. 2 *l*
113 Graham ave., Bklyn
Church, B. sp *s*
78 Warburton ave., Yonkers, N. Y.

Cimiotti, W. F. 3 *m* 104 W. 84
Clapp, W. N. 4 *c* Hempstead, L. I.
Clark, A. R. *t* Cresskill, N. J.
Clark, A. T. S. *t* 466 W. 149
Clark, B. F., Jr. 3 *s* 244 W. 49
Clark, E. P. sp *s* 8 W. 22
Clark, F. A., sp *c* 1 W. 72
Clark, F. B. 1 *s* 249 W. 54
Clark, F. M. 2 *c* 524 W. 123
Clark, G. H. 1 *b* 258 W. 78
Clark, H., Jr. 4 *c* 318 W. 82
Clark, M. E. 2 *b* 463 Manhattan ave.
Clark, M. P. *t* 1161 Amsterdam ave.
Clark, T. 3 *s* 243 W. 120
Clark, T. M. *t* 886 Morris ave.
Clark, W. E. *pl* 362 W. 118
Clark, W. F. *ph* 41 E. 69
Clark, W. I., Jr. 4 *c* 127 E. 30
Clark, W. L. 3 *s* 37 W. 84
Clarke, H. J. B. 3 *s* 19 E. 9
Clarke, M. S. 4 *b* 68 Columbia Heights, Bklyn
Clarke, R. W. M. 2 *s* 19 E. 9
Clarke, S. N. 1 *l* 569 Kingsbridge rd.
Clay, T. A. 1 *m* 30 Sheridan ave., Paterson, N. J.
Clinch, E. S., Jr. 4 *s* 133 W. 121
Close, J. A. 2 *s* 386 W. 125
Closs, R. E. *t* 1161 Amsterdam ave.
Clowes, H. C. *t* 530 W. 123
Coan, P. 4 *c* 67 E. 54
Coan, S. sp *m* 63 7th st.
Cobb, W. B. 3 *l* 296 Manhattan ave.
Cochran, G. H. 4 *m* 18 W. 102
Cochrane, F. L. 4 *m* 704 Sterling pl., Bklyn
Cocks, G. H. 1 *m* 318 W. 57
Cocks, O. G. *pl* 41 E. 69
Coddington, E. C. 2 *b* 38 Hamilton ave., Passaic, N. J.
Coddington, E. M. gr *b* 24 W. 58
Coe, J. L., Jr. 1 *l* 505 W. 112
Coe, M. S. gr *b* 42 W. 52
Coerr, F. D. H. 4 *c* 16 W. 125
Coffee, R. I. 4 *c* 736 Lexington ave.
Coffin, H. S. *pl* 13 W. 57
Coffin, R. R. 1 *c* 258 W. 72
Coggeshall, A. 1 *s* 109 Worth st.
Cohen, C. sp *t* 42 W. 92
Cohen, E. P. *t* 288 W. 137
Cohen, F. 1 *m* 1 W. 115
Cohen, G. A. sp *t* 116 W. 86
Cohen, H. L. 1 *b* 5 W. 91
Cohen, I. 2 *l* 458 Grand st.
Cohen, M. 2 *l* 310 W. 33
Cohn, A. E. 4 *c* 64 E. 66
Cohn, H. 3 *m* 12 Charlton st., Newark, N. J.
Cohn, I. 2 *m* 154 Henry st.
Cole, A. P. sp *m* 333 W. 58
Cole, B. L. *t* Inwood, N. Y.
Cole, H. 4 *b* 64 Hawthorne ave., Yonkers, N. Y.
Coleman, A. A. A. 1 *b* Pelham Manor, N. Y.
Coles, A. B. *t* 72 W. 124
Colie, E. M., Jr. 2 *c* 614 W. 113
Collins, W. M. sp *c* 330 W. 108
Collis, C. 1 *s* 1055 5th ave.
Collyer, L. C. *t* 93 Union Hall st., Jamaica, L. I.
Colman, C. G. *t* 1161 Amsterdam ave.
Colman, J. M. 3 *s* 866 Boulevard
Colt, M. 3 *s* 12 E. 11
Colton, E. A. 1 *m* 112 W. 61
Colwell, L. M. 3 *s* 365 W. 27
Combes, P. A. *t* Rockville Centre, L. I.
Comegys, G. D. *t* 37 Morningside ave.
Comey, J. W. 2 *l* 52 W. 54
Compton, A. D. *ph* 40 West 126
Comstock, W. P. 1 *c* 460 W. 150
Conant, F. R. sp *pl* 41 E. 69
Condit, J. D. 3 *m* 363 W. 56
Conger, H. R. 1 *l* 19 W. 20
Conklin, D. B. 2 *m* 165 W. 77
Conklin, R. S. 1 *l* 386 W. 125
Connell, K. A. 4 *m* 135 W. 64
Connelly, M. J. 1 *m* 618 Grove st., Jersey City, N. J.
Connolly, M. E. 1 *l* Corona, L. I.
Constant, C. L., Jr. 1 *s* 2143 7th ave.
Conway, F. M. *t* 630 W. 149
Cook, A. E. 1 *m* 483 14th st., Bklyn
Cook, C. C. 2 *b* 610 S. B'way, Yonkers, N. Y.
Cooke, A. S. 3 *m*
Cooke, L. J. *t* Far Rockaway, L. I.
Cooley, W. K. 1 *m* Mt. Vernon, N. Y.
Cooper, A. B. *t* Fiske Hall
Cooper, E. M. 1 *s* 57 Convent ave.
Cooper, M. A. *t* 9 E. 57
Corman, L. R. 1 *m* 201 W. 121
Cornell, I. H. 1 *s* 29 E. 37
Cornell, R. T. 3 *s* 67 W. 83
Corrigan, H. J. C. 2 *m*
Corrigan, J. E. 2 *l* 2708 Broadway
Corson, G. *t* 419 W. 118
Cortright, C. B. 2 *m* 158 Plane st., Newark, N. J.
Corwin, N. S. 3 *l* 417 W. 117
Cosgrove, J. J. 1 *m* 424 W. 57
Cotton, W. A. sp *m* 141 W. 105
Coultas, A. B. 2 *m* 112 W. 61
Coursen, C. F. *t* 417 W. 118

Couzens, J. C. 1 *s* 169 Hawthorne ave., Yonkers, N. Y.
Covert, J. B. 2 *m* 110 W. 64
Cowen, H. G. 2 *c* 130 E. 47
Cowing, P. F. 2 *s* 130 E. 78
Cox, W. N. 3 *l* 125 W. 127
Coykendall, F. 3 *s* Hotel Marie Antoinette, Boulevard and 66th st.
Coyle, G. D. *t* 265 Henry st
Cram, G. E. 3 *m* 318 W. 57
Cram, H. L. gr *b* 117 W. 115
Crampton, C. W. 4 *m*
Crane, C. G. 4 *m* 25 W. 23
Crane, W. R. sp *s* 386 W. 125
Crawford, M. 4 *b* 79 Bidwell ave., Jersey City, N. J.
Creeden, E. L. 3 *m* 232 E. 18
Cregier, A. 3 *s* 119 E. Lincoln ave., Mt. Vernon, N. Y.
Crissey, C. P. 2 *s* 134 W. 79
Crocker, G. A., Jr. 1 *s* 5 W. 49
Cromwell, R. H. 2 *s* 225 Quincy st., Bklyn
Cronin, W. D. 4 *m* 133 W. 64
Crooks, N. *t* 1161 Amsterdam ave.
Crosby, H. B., Jr. 2 *s* 417 W. 117
Cross, F. B. 4 *m* 6 W. 66
Crowell, J. W. 1 *c* 188 Franklin pl., Flushing, L. I.
Cruser, F. Van D. 1 *s* 195 Clinton st., Bklyn
Cunningham, J. A. 3 *m* 108 E. 12
Curran, J. D. 3 *m* 145 W. 61
Curran, P. J. 3 *m*
Curry, M. 1 *s* Fort pl., New Brighton, S. I.
Curry, R. 4 *s* New Brighton, S. I.
Curtis, A. F. sp *t* 1161 Amsterdam ave.
Curtis, B. 1 *l* 33 W. 69
Curtis, B. R. 2 *l* 30 E. 64
Curtis, E. D. 2 *l* 9 E. 54
Curtiss, E. *t* 74 W. 124
Cushing, E. W. 3 *l* 227 W. 122
Cushing, R. B. 1 *l* 227 W. 122
Cutter, G. P. 1 *s* Marlborough Hotel
Cutting, H. E. 3 *b* 12 Hawthorne ave., Yonkers, N. Y.

Dale, F. D. 4 *b* 417 W. 118
Dalton, W. A. 2 *m* 1057 Jennings st.
Dambmann, E. A. sp *b* 40 Gramercy Park
Dammes, T. W. *pl* 41 E. 69
Dana, C. A. 1 *c* 55 W. 51
Danforth, E. 2 *m* Hotel Endicott
Daniell, M. E. sp *t* 412 W. 115
Daniels, H. P. 2 *s* 73 E. 127
Danton, G. H. 2 *c* Lyndhurst, N. J.
Danziger, J. L. 2 *s* 2549 8th ave.
Darling, E. F. 4 *m* 332 W. 56
Darrach, W. 3 *m* 317 W. 58
David, F. H. 1 *m* 33 W. 126
Davidson, I. *ph* 81 E. 113
Davis, A. 1 *c* 133 Monroe st., Bklyn
Davis, A. sp *b* 147 W. 105
Davis, A. W. 1 *m* 317 W. 58
Davis, B. *p* 321 W. 124
Davis, J. W. 2 *m* 158 W. 65
Davis, M. M., Jr. 4 *c* 23 Morningside ave.
Davis, T. J., Jr. sp *m* 589 St. Mark's ave., Bklyn
Davison, E. S. gr *b* 109 Joralemon st., Bklyn
Day, A. W. 3 *m* 140 52d st., Bklyn
Day, F. M. sp *m* 112 W. 61
Deahl, J. N. gr *t* 1270 Amsterdam ave.
Dean, A. P. *ph* 700 Park ave.
DeBaun, R. 1 *m* Valley Cottage, Rockland, N. Y.
de Beaumont, V. E. 3 *c* 723 Columbus ave.
de Castro, R., Jr. 3 *m* 62 W. 66
Dederer, P. H. 3 *b* 608 W. 113
Deely, G. E. 4 *m* 145 W. 61
De Hart, G. L. 2 *b* 99 Mercer st., Jersey City, N. J.
de la Fuente, J. 4 *s* 417 W. 117
Delgado, F. P. 3 *c* 328 W. 57
de Ligarde, F. sp *t* 529 E. 160
De Long, F. S. 3 *m* 47 W. 49
de Mille, W. C. 4 *c* 417 W. 117
Deming, D. B. 3 *m* 318 W. 57
Dempewolff, A. F. 4 *m* 11 Manhattan st.
Dempwolf, C. H., Jr. 1 *s* 520 W. 123
Denbigh, J. H. sp *p* 852 E. 163
Denicke, E. H. sp *s* 419 W. 117
Denison, R. F. 3 *l* 20 State st., Sing Sing, N. Y.
Denman, G. E. sp *pl* 435 W. 117
Dennis, A. L. P. *pl* 301 Lexington ave.
Dennis, H. R. 1 *l* 3 E. 53
Denseith, J. G. 3 *m* 354 W. 42
De Nyse, R. Van N. sp *c* 306 S. 5th st., Bklyn
Depew, C. M., Jr. 3 *c* 27 W. 54
Deutsch, S. 2 *m* 534 E. 87
De Witt, G. G. 1 *s* 133 W. 78
Dewolf, G. A. gr *b* 12 Vanderpool st., Newark, N. J.
Dewsnap, G. G. 1 *l* 123 E. 34
de Young, A. B. 2 *l* "The Wellington," 92d st. and Madison ave.
Diamant, S. 2 *s* 245 E. 118
Dias, J. L. 1 *m* 117 W. 63

Dickerson, H. 2 *s* 99 John st.
Dickie, A. E. 2 *s*
566 Macon st., Bklyn
Dickinson, A. 1 *c* 417 W. 117
Dickinson, H. T. 4 *s* 212 W. 80
Dickinson, T. H. *ph* 331 W. 124
Diller, A. sp *b* 805 Carnegie Hall
Dillon, C. J. 2 *m* 118 W. 47
Dilworth, M. B. *t*
Yonkers Park, N. Y.
Dionne, G. A. L. *ph* 44 W. 45
Ditman, N. E. 4 *m* 127 W. 61
Dittenhoefer, L. F. 1 *s* 1026 Park ave.
Dixon, D. J. sp *m*
106 First st., Hoboken, N. J.
Dixon, J. 3 *s* 417 W. 117
Dixon, S. H. 4 *c*
Railroad ave., Unionport, N. Y.
Dixon, W. H. 4 *c* 29 W. 49
Dodd, E. L. 4 *m*
196 Clinton ave., Newark, N. J.
Dodd, M. G. *t* 1161 Amsterdam ave.
Dodge, M. H. 1 *c* 232 Madison ave.
Doherty, C. J. 2 *l* 735 Lexington ave.
Dollard, H. L. 2 *m* Oyster Bay, L. I.
Dominick, W. F. 3 *s* 35 E. 57
Donald, R. S. 2 *b* 170 W. 121
Donnellan, G. L. 3 *c* 883 6th ave.
Donohue, F. B. 3 *m*
253 Main st., Paterson, N. J.
Doob, I. E. 3 *l* 44 W. 74
Doolittle, W. F. 2 *m* 116 W. 63
Doon, J. H. 2 *m* 424 W. 57
Doran, C. E. 1 *m* 210 W. 88
Dorman, A. R. 2 *s* 96 Buena Vista ave., Yonkers, N. Y.
Dorman, H. G. 4 *m* 318 W. 57
Doud, C. H. 3 *s* 554 W. 125
Dougherty, R. E. 3 *s* 244 W. 20
Doughty, E. C. sp *s* 281 5th ave.
Doughty, W. H., Jr. 2 *l*
281 5th ave.
Dowden, F. A. gr *b*
125 Lincoln ave., Newark, N. J.
Downes, W. A. sp *m* 24 W. 36
Drennan, E. *t* 311 W. 119
Dressler, W. B. 3 *c* 208 W. 103
Drew, J. B. 3 *l* 363 Manhattan ave.
Driscoll, D. M. 4 *m* 143 W. 61
Drucker, A. P. 3 *c* 736 Lexington ave.
Du Bois, E. A. sp *t* 939 8th ave.
Du Bois, E. H. gr *b* 251 W. 127
Du Bois, F. E. 1 *m*
303 Lexington ave.
Du Bois, W. C. 3 *s*
35 W. 34th st., Bayonne, N. J.
Duckett, W. J. 1 *m* 146 W. 64
Duckworth, A. W. 1 *l*
147 Berkeley pl., Bklyn
Duden, F. H. 2 *c*
P. O. Box 48, Bronxville, N. Y.
Duden, H. 3 *c*
P. O. Box 48, Bronxville, N, Y.
Duden, W. 4 *c* Bronxville, N. Y.
Dudley, M. J. *t* 522 W. 123
Dudley, P. sp *c* 137 W. 103
Duffey, L. R. *t* 1161 Amsterdam ave.
Duffield, F. 4 *m* 28 E. 28
Duffield, R. F. 4 *c* Hollis, L. I.
Dufourcq, R. G. 2 *c* 62 W. 84
Duggan, S. P. *pl* 143 E. 49
Dugro, F. A. 1 *m* 309 E. 6
Dulon, M. R. *t* 646 W. 158
Dunbar, D. O. 4 *c*
Duncan, G. E. 2 *l* 18 E. 40
Duncan, O. B. 2 *m*
202 Carroll st., Paterson, N. J.
Dunning, C. J. *t*
85th st. and 3d ave., Bklyn
Durant, E. 2 *b* 305 W. 86
Durham, K. 3 *c* 404 W. 145
Durham, R. 4 *c* 404 W. 145
Dusenbury, A. N. 4 *s*
1 W. 81, Hotel Beresford
Dutcher, E. O. 2 *b*
496 3d st., Bklyn
Dutcher, M. *t* 525 Manhattan ave.
Duval, H. R. sp *c* 26 W. 21
Du Vivier, J. sp *c* 441 W. 21
Dwyer, J. J. 1 *l* 182 E. 111
Dwyer, J. W. 4 *m* Garfield, N. J.
Dyer, A. L. sp *b*
86 Lefferts place, Bklyn
Dyrsen, H. H. 1 *c* 131 W. 87

Earle, R. 2 *b* 528 W. 123
Earle, V. de La M. 1 *c*
160th st. and Edgecomb ave.
Eastmond, C. 3 *c*
199 Madison st., Bklyn
Eaton, E. H. *p* 363 W. 123
Eaton, M. L. 3 *b* Nyack, N. Y.
Eccles, D. C. 4 *s* 191 Dean st., Bklyn
Edwards, C. H. 3 *l* Murray Hill Hotel
Edwards, E. J., Jr. 3 *c*
Murray Hill Hotel
Edwards, G. N. *pl* 41 E. 69
Edwards, J. A. 4 *c* 144 W. 58
Egner, A. F. 1 *c*
1015 Broad st., Newark, N. J.
Ehrmann, A. 2 *c* 11 W. 58
Eldert, H. C. 1 *l* 352 W. 120
Eldridge, G. D., Jr. 3 *l* Palisade ave., Riverdale-on-Hudson, N. Y.
Eldridge, B. B. sp *t*
27 N. Washington sq.
Elgin, E. M. sp *t* Fiske Hall
Elias, H. H. 1 *c* 18 W. 17

Elias, L. W. 1 *m* 218 Lenox ave.
Elkin, H. J. *ph* 54 E. 122
Ellard, C. H. *p* 177 W. 73
Elleau, A. L. sp *t* Fiske Hall
Ellenbogen, J. K. 3 *l*
Elliman, K. B. 3 *c* 417 W. 117
Elliman, M. G. 2 *b* 24 W. 61
Elliott, E. H. *t* 336 7th ave., Bklyn
Elmore, W. B. 4 *c* 507 W. 112
Elting, M. 3 *b* 174 W. 109
Ely, A. Jr. sp *c* Ann Arbor, Mich.
Emerson, E. H. 2 *s* 505 W. 112
Emerson, J. T. sp *t* 81 Madison ave.
Emerson, R. gr *b* 81 Madison ave.
Emmanuelli, F. 1 *l* 1919 7th ave.
Engel, P. B. sp *m*
10 Stuyvesant ave., Bklyn
Engel, W. F. 3 *m*
10 Stuyvesant ave., Bklyn
Engelke, C. 2 *m* 161 W. 64
Epler, D. A. 1 *m* 244 W. 43
Erdal, O. W. 4 *s* 369 W. 120
Erdman, S. 2 *m* 251 W. 55
Erdwurm, F. 1 *m*
108 Orient ave., Jersey City, N. J.
Erganian, J. K. sp *m* 145 E. 23
Ernst, A. O. 3 *c* 206 W. 113
Ernst, B. M. L. 1 *l* 233 W. 113
Erskine, J. 4 *c* Weehawken, N. J.
Erskine, J. P. 1 *m* 317 W. 56
Erving, S. 1 *c* 435 W. 117
Esser, J. H. 3 *c* 209 Sidney ave., Mount Vernon, N. Y.
Estill, R. J. 2 *m* 129 W. 61
Evalenko, W. A. 2 *s* 108 E. 101
Evans, A. P. 1 *m*
755 Quincy st., Bklyn
Evans, J. H., 2 *m* 100 W. 61
Evans, W. A. D. 1 *s* 147 W. 130
Everett, S. H., Jr. 1 *s*
490 Hancock st., Bklyn
Everitt, C. V. 4 *m*
38 Boyd ave., Jersey City, N. J.
Eyanson, F. E. 2 *l*
Eyer, G. A. sp *s* 255 W. 122
Ezekiels, J. *t* 108 W. 13

Fackenthal, J. D. 4 *c*
93 Rodney st., Bklyn
Fahnestock, C. 4 *m* 457 Madison ave.
Fahnestock, E. 4 *m* 457 Madison ave.
Faile, K. C. 2 *c* 53 W. 49
Fair, R. M. 1 *s*
34 Park pl., New Rochelle, N. Y.
Fairchild, C. W. 1 *m*
Tarrytown, N. Y.
Faick, A. D. 1 *l*
Falconer, B. McL. 2 *c* 5 E. 62
Falk, K. G. 3 *s* 995 Madison ave.
Falk, M. A. 1 *c* 33 E. 67
Farish, G. E. 2 *s* 149 Manhattan ave.
Farnham, W. S. 2 *l* 140 W. 96
Farrell, E. *t*
Farrell, P. L. 1 *l*
536 Carlton ave., Bklyn
Farrington, F. E. hd *t* 329 W. 83
Fassett, B. S. 1 *m*
"The Royalton," W. 44th st.
Faucett, S. T. 1 *m*
Grove st., Stamford, Conn.
Fay, E. L. 1 *l* 118 Atlantic ave., Bklyn
Fear, K. C. sp *m* 201 E. 34
Feely, W. H. P. 1 *m*
296 Lorimer st., Bklyn
Feldman, M. 4 *s*
P. O. Box 503, Rosebank, S. I.
Fendrich, A. E. 4 *m* 428 W. 41
Fenet, J. P. 3 *c*
Fenn, R. W. sp *t*
Fettis, A. E. 1 *c* 330 Alexander ave.
Fetzer, L. T. 2 *l* 498 W. 133
Feust, A. 2 *s* 718 E. 138
Fewsmith, J. L. 2 *m*
47 Central ave., Newark, N. J.
Fiedler, E. C., Jr. sp *pl* 60 W. 39
Field, F. P. 1 *m*
Fielder, L. *t* 1161 Amsterdam ave.
Finch, L. H. 1 *m*
556 Halsey st., Bklyn
Fink, C. G. 1 *c* 133 W. 85
Finlay, G. I. *p* 134 Flatbush av., Bklyn
Finn, F. A. 1 *m* 133 Danforth ave., Jersey City, N. J.
Finnigan, B. M. sp *b* 151 W. 81
Finnigan, J. J. 4 *c* 140 W. 63
Fischer, P. *t* 515 E. 87
Fischer, S. M. 2 *l* 152 E. 81
Fischer, W. 1 *s* 137 W. 95
Fishel, L. 3 *l* 543 Manhattan ave.
Fishel, L. H. gr *b* Babylon, L. I.
Fisher, M. H. 3 *b* 149 S. 2d ave., Mount Vernon, N. Y.
Fisher, M. L. 1 *c* 116 E. 72
Fisher, R. M. 4 *s* 149 S. 2d ave., Mt. Vernon, N. Y.
Fisk, C. E. 2 *c* 17 Bentley ave., Jersey City, N. J.
Fiske, W. M. L., Jr. 4 *c*
484 Bedford ave., Bklyn
Fitch, E. H. 1 *b* 273 W. 84
Fitch, J. K. 2 *c* 419 W. 118
Fleming, W. S. *ph* Scarsdale, N. Y.
Fletcher, N. De L. 2 *m* 180 E. 93
Flint, F. E. H. gr *b*
1161 Amsterdam ave.
Flint, R. P. sp *s* 101 W. 73
Flood, G. J. B. 3 *m* 352 W. 55
Floyd, C. W. 2 *l* 174 W. 126

Flynn, J. P., Jr. 1 *s* 367 Manhattan ave.
Flynn, J. V. *t* 354 Van Buren st., Bklyn
Focardi, P. L. 3 *s* 130 W. 109
Foehrenbach, H. P. 3 *m* 2189 B'way
Foise, J. F. 1 *l* 147 E. 60
Foley, M. E. 1 *l* 327 W. 112
Folger, H. *t* 505 W. 112
Forbes, C. S. 3 *c* 133 E. 29
Ford, H. C. 3 *s* 310 W. 18
Ford, H. E. 1 *c* Livingston place, West New Brighton
Ford, W. H. 1 *s* Demarest, N. J.
Forrest, G. *t* 884 Putnam ave., Bklyn
Forsch, A. 3 *c* 31 W. 86
Forst, L. 1 *l* 250 W. 131
Fort, J. I. 1 *c* 33 S. 10th st., Newark, N. J.
Foshay, J. R. 1 *m* 150 Union Ave., Peekskill, N. Y.
Foster, B. F. 2 *l* 11 E. 84
Foster, E. E. *t* 1161 Amsterdam ave.
Foster, G. K. 3 *c* 524 W. 123
Fowler, A. McD., Jr. *ph* 41 E. 69
Fowler, E. P. 4 *m* 18 E. 58
Fowler, L. H. 2 *s* 280 Amsterdam ave.
Fowler, S. R. 2 *m* 230 W. 75
Fowles, G. M. *pl* 183 W. 135
Fox, H. K. sp *pl* 41 E. 69
Fox, N. B. 1 *l* 419 W. 118
Fox, R. C. 2 *l* 174 W. 126
Franca, M. 1 *m* 62 W. 66
France, M. J. 4 *c* 933 Kent ave., Bklyn
Francis, C. de La R. 4 *c* 325 W. 112
Francis, N. L. sp *pl* 58 W. 58
Frank, A. A. sp *s* 308 W. 90
Frank, D. L. 1 *s* 68 W. 120
Frank, E. 1 *s* 209 W. 127
Frank, H. 1 *s* 378 Vanderbilt ave., Bklyn
Frank, J. S. 1 *l* 308 W. 90
Frank, M. L. 3 *c* 48 E. 80
Frank, R. T. 4 *m* 17 E. 61
Frank, W. P. 1 *l* 17 E. 61
Franklin, L. 1 *m* 93 Newark ave., Jersey City, N. J.
Frazer, C. R. 1 *l* 419 W. 118
Frazer, H. T. 3 *m* 129 W. 61
Frazier, M. L. *pl* 254 6th ave.
Frechtling, H. P. 1 *l*
Fredericks, A. 3 *s* 220 E. 80
Freed, R. *t* 331 Madison st.
Frentzel, L. H. W. sp *m* Passaic, N. J.
Freund, H. P. 2 *s* 796 Lexington ave.
Fried, G. A. 1 *m* 47 W. 87
Friedman, H. J. 1 *m* 261 E. 4
Frink, C. A. 2 *m* 129 W. 61
Frissell, L. F. 4 *m* 125 W. 47
Frohne, H. W. 1 *s* 128 Bible House
Frost, L. R. *t* 1 Mt. Morris Park, W.
Fry, E. L. 1 *b* 165 Lexington ave.
Fry, W. H. *pl* 319 9th st., Bklyn
Fulda, C. 3 *m* 107 Kent st., Bklyn
Fuller, C. 2 *l* 30 Washington sq., W.
Fuller, L. C. sp *c* 30 Washington sq.
Fulton, J. A. 4 *s* 213 W. 44
Funk, J. A. 4 *m* 447 W. 57
Furness, C. E. gr *b* Vassar College, Poughkeepsie, N. Y.
Furst, C. B. *ph* 417 W. 114
Fusz, P. F. 1 *s*
Futter, L. N. sp *c* College Point, L. I.

Gabriel, C. J. 3 *m* 53 16th ave., Newark, N. J.
Gagan, T. F. 1 *l* Haverstraw, N. Y.
Gage, G. H. 1 *m* 143 W. 63
Gaige, R. C. 1 *c* 299 State st., Bklyn
Gaillard, F. P. 1 *s* 78 W. 94
Galbraith, A. W. 2 *m* 115 E. 56
Gale, S. S. 3 *m* 122 W. 64
Gallatin, A. sp *s* 670 5th ave.
Gallatin, F, Jr. sp *s* 58 W. 55
Gallatin, G. 4 *c* 670 5th ave.
Galloway, L. *pl* 12 Convent ave.
Ganter, C. R. 1 *l* Box 32, Irvington-on-Hudson, N. Y.
Gardiner, P. P. 4 *c* 306 W. 115
Gardner, L. D. *pl* 417 W. 114
Garrabrant, E. E. *t* 1161 Amsterdam ave.
Garretson, W. Van P. 1 *m* 176 Clark st., Jersey City, N. J.
Garrigan, G. P. 2 *m* 609 High st., Newark, N. J.
Garritt, A. W. *t* 42 W. 133
Garrity, A. R. *t* Jamaica, L. I.
Garside, C. Z. 1 *m* 112 Stone st., Newark, N. J.
Garvin, W. C. 1 *m* 100 St. Mark's ave., Bklyn
Gaston, M. E. 2 *s* 441 Park ave.
Gates, C. M. sp *ph* 41 E. 69
Gates, W. B. *ph* 41 E. 69
Gausmann, K. S. sp *t* Leonia, N. J.
Geer, E. E. *t* 74 W. 124
Geer, E. T. 1 *c* 113 W. 11
Gentzlinger, C. F. 3 *l* 316 2d ave.
George, J. J. *ph* 258 W. 127
Gerken, W. D. *t* 604 W. 114
Germann, S. M. 4 *b* 90 Norman ave., Bklyn

Gerrard, E. A. *ph* 466 W. 140
Gerrety, T. A. 1 *l* 41 Stone st., New Brunswick, N. J.
Gershel, M. 4 *m* 340 E. 69
Gerster, J. C. A. 2 *c* 34 E. 75
Gibbs, J. P. 3 *m* 318 W. 57
Gibbs, W. R. 1 *s* 165 W. 77
Gibson, H. W. (Mrs. J. S.) gr *b* 77 Washington ave., Newark, N. J.
Giddings, H. S. 4 *c* 150 W. 79
Gieschen, A. H. 3 *m* 46 E. 124
Giffen, S. D. 2 *m* 200 W. 119
Gilbert, L. F. *t* Fiske Hall
Gilbert, T. D. sp *m* 7 E. 31
Gilchrist, E. P. 2 *l* 435 W. 117
Gilchrist, N. A. *pl* 700 Park ave.
Gildersleeve, V. C. gr *b* 28 W. 48
Giles, J. R. 2 *c* 65 W. 70
Giles, M. F. gr *b* 100 E. 73
Gill, A. M. sp. *t* Fiske Hall
Gillespie, D. H. M. 2 *m* 337 W. 57
Gillespie, L. L. 1 *l* 49 E. 53
Gillespy, J. B. 4 *b* 9 W. 64
Gillet, L. A. 3 *s* 32 W. 10
Gillette, C. 3 *m* 24 W. 40
Gilsey, G. L. 1 *c* St. Anthony Hall, Riverside Dr. and 116th st.
Gladney, F. Y. 1 *l* 1964 7th ave.
Glasby, H. S. 1 *s* 14 Roseville ave., Newark, N. J.
Glasscheib, S. H. 1 *l* 124 E. 102
Gleason, A. *t* 352 W. 120
Glenney, W. L. 2 *c* Plainfield, N. J.
Goadby, A. M. *t* 21 W. 35
Godwin, H. 2 *s* 125 W. 122
Goepel, C. P. 2 *s* 2350 7th ave.
Goerwitz, W. 3 *s* 190 3d ave.
Goff, J. W., Jr. 2 *c* 319 W. 104
Golay, J. gr *b* 109 W. 77
Goldberg, J. M. 2 *m* 157 E. 72
Goldberg, S. 1 *l* 116 Stanton st.
Golden, P. N. 3 *s* 72 W. Grand st., Elizabeth, N. J.
Goldfrank, F. 1 *m* 20 E. 81
Goldman, C. 3 *m* 1 Pike st.
Goldmark, J. gr *b* 270 W. 94
Goldsborough, M. L. 4 *b* 65 W. 83
Goldsmith, G. sp *t* 166 W. 83
Goode, E. L. 3 *s* 314 Jefferson ave., Bklyn
Goodenough, R. J. 4 *s* 18 7th ave., Bklyn
Goodfriend, N. 2 *m* 362 E. 8
Goodhue, I. W. 2 *l* 264 W. 107
Goodman, F. V. 1 *c* 131 W. 103
Goodman, J. E. *ph* 67 W. 93
Goodman, M. 3 *s* 338 E. 4
Goodman, M. L. 4 *m* 338 E. 4
Goodrich, A. F. *ph* 363 W. 117
Goodrich, J. S. 1 *s* 119 W. 104
Goodridge, F. G. 3 *m* 250 5th ave.
Goodwillie, R. H. 4 *s* 50 Hamilton terrace
Goodwin, W. M. 1 *l* 419 W. 118
Gookin, W. F. 2 *c* 127 W. 112
Gordon, G. A. *pl* 41 E. 69
Gordon, H. A. 1 *c* 48 W. 84
Gorman, A. A. *t* 1161 Amsterdam ave.
Gotthelf, A. H. *p* Hastings-on-Hudson
Gottschalk, C. A. sp *b* 178 W. 81
Gottschall, L. *p* 207 E. 53
Gould, G. C. 2 *m* 130 Washington st., Mt. Vernon, N. Y.
Gould, J. W. 4 *c* 246 14th st., Bklyn
Gow, R. A. 2 *m*
Gowans, E. *t* 417 W. 118
Gower, C. A. gr *s* 3133 Broadway
Grace, W. H. 3 *c*
Graham, J. F., Jr. 4 *m* 118 W. 61
Graham, W. B. *pl*
Grannis, A. *ph* 604 W. 114
Grannis, P. E. 3 *c* 306 W. 115
Grant, E. T. *t* 128 E. 34
Grant, H. R. 3 *c* 323 W. 83
Grant, J. E. 4 *m* 313 W. 114
Grant, O. R. 2 *s* 2236 S. Boulevard
Grausman, P. M. 4 *m* 365 W. 55
Graves, D. D. 1 *l* 58 Morningside ave.
Graves, E. S. *p* 429 W. 117
Graves, J. W. 1 *l* 1964 7th ave.
Gray, C. 2 *s* 255 W. 126
Gray, C. O. *pl*
Gray, H. D. *ph* 352 W. 120
Gray, J. 3 *c* 246 14th st., Bklyn
Gray, L. C. 315 W. 119
Gray, L. H. *ph* 53 2d ave., Newark, N. J.
Green, R. C. 3 *s* Newtown, N. Y.
Green, S. G. 4 *m* A. H. Hospital, Blackwell's Island
Greenblatt, M. 1 *m* 1 E. 106
Greene, M. E. 3 *s* 417 W. 23
Greene, P. L. 1 *s* 490 Vanderbilt ave., Bklyn
Greenleaf, J. C. sp *s* Hotel Marie Antoinette, 66th st. and Boulevard
Greenslet, F. *ph* 203 W. 123
Gregory, W. K. 4 *c* 149 W. 12
Gregory, W. S. 1 *m* 5 West ave., Norwalk, Conn.
Greif, J. 1 *m* 232 Rivington st.
Greil, G. 3 *m* 122 W. 64
Gretsch, B. J. 3 *m* 334 E. 77
Grevatt, F. F. 1 *s* 291 Spring st., West Hoboken, N. J.

Griffin, W. H. 1 *l* 156 Kent st., Bklyn
Griffing, A. V. W. (Mrs. E. B.) sp *b* 129 W. 56
Griffith, P. Le R. 1 *s* 26 W. 123
Griffiths, D. *p* 264 W. 127
Griswold, F. K. sp *t* 140 Harrison st., Bloomfield, N. J.
Groff, M. 1 *b* 21 Crescent ave., Jersey City, N. J.
Gross, A. 1 *c* 69 E. 113
Gross, H. 1 *m* 451 Central ave., Jersey City, N. J.
Grossmann, L. 3 *m* 209 E. 106
Grout, G. H. 3 *m* 318 W. 57
Gruening, C. E. 1 *b* 111 E. 23
Guenther, E. A. 2 *m* 163 W. Kinney st., Newark, N. J.
Guinan, E. V. 1 *l* 163 E. 123
Gulbrandsen, S. 1 *s* 304 Kosciusko st., Bklyn
Gulick, H. de H. 3 *c* Astoria, L. I.
Gulliver, F. D. 1 *m*
Gumm, H. H. 3 *c* 200 Church st.
Gundersen, C. *p* 124 W. 127
Gunter, C. 3 *m* 122 W. 64
Gunther, C. G. 1 *s* Castle Hotel, 103d st. and Amsterdam ave.
Guyer, R. 1 *s* 319 W. 116

Haas, G. C. O. 2 *c* 64 7th st.
Haas, H. J. 1 *c* 62 W. 119
Haas, J. L. sp *c*
Haas, L. 2 *l* 483 West End ave.
Haas, L. 1 *l*
Haber, J., Jr. 2 *l* 417 W. 117
Haber, W. J. 2 *m* 417 W. 117
Haberman, J. V. 2 *c* 248 E. 61
Haberstroh, A. 2 *m* 2523 11th ave.
Hackett, H. S. 3 *l* Hotel Manhattan
Hackett, J. M. 1 *c* 350 W. 21
Hager, C. S. sp *pl* 41 E. 69
Hahn, G. H. 2 *m* 122 Newton st., Newark, N. J.
Haight, J. B. *t* Corona, N. Y.
Haines, H. W. 1 *s* 153 W. 121
Halff, M. L. 2 *l* 43 Leonard st.
Hall, C. H. 2 *m* 427 Waverly ave., Bklyn
Hall, E. J. sp *c* Passaic, N. J.
Hall, F. L. *t* 1161 Amsterdam ave.
Hall, J. H. 3 *l* 367 W. 117
Hall, L. H. 3 *l* 644 Amsterdam ave.
Hall, L. W. 2 *l* 151 W. 106
Hall, M. D. 2 *b* Mount Vernon, N. Y.
Hall, W. W. 1 *l* 109 W. 104
Halligan, T. C. sp *ph* 335 2d ave.
Hallock, A. D. *t* Beechwood ave., Bridgeport, Conn.
Hallock, C. W. S. *t* 520 W. 123
Halloway, H. R. *t* 225 Le Grande ave., Plainfield, N. J.
Halsey, C. B. 2 *s* 939 Madison ave.
Halsey, F. R. 2 *c* 957 Boulevard, Astoria, L. I.
Halsey, H. Van W. 2 *c* Astoria, L. I.
Halsey, R. H. 4 *m* 318 W. 57
Halstead, K. B. 2 *c* 410 W. 115
Hamaguchi, R. sp *c* 519 W. 123
Hamburger, S. 2 *s* 43 W. 119
Hamilton, A. 2 *m* 127 W. 61
Hamilton, E. W. 1 *l* 338 W. 55
Hamilton, G. L. *ph* 318 W. 29
Hamilton, S. W. 1 *m* 145 W. 66
Hamlin, J. Z. sp. *t* Belleville, N. J.
Hammer, J. 2 *m* 304 Rivington st.
Hammerslough, C. gr *b* 156 E. 70
Hammond, A. M. *t* 84 W. 120
Hanemann, J. T. 1 *s* 159 W. 85
Hanks, L. T. 3 *b* 766 Madison ave.
Hanscom, H. C. 4 *m* 143 W. 117
Hanson, H. O. 3 *c* 886 Jackson ave.
Harcourt, A. sp *t* 1161 Amsterdam ave.
Hardenbergh, A. sp *s* 121 W. 73
Hare, J. J. 1 *l* 386 W. 125
Harmon, A. L. 2 *s* 343 W. 121
Harper, J., Jr. 2 *c* 127 E. 28
Harper, R. M. *p* 1284 Columbus ave.
Harran, G. P. 2 *m* 1626 Madison ave.
Harrington, H. S. 1 *l* 369 W. 120
Harris, B. C. sp *b* 52 W. 54
Harris, E. S. *t* 156 E. 27
Harris, H. S. 2 *c* 114 W. 116
Harris, J. B. sp *pl* Park Ave. Hotel
Harris, T. Le G. *pl* 3133 B'way
Harrison, E. J. 1 *c* 12 Garden pl., Bklyn
Harrison, H. S. 4 *c* 258 Henry st., Bklyn
Harrison, J. C. 2 *c* 542 Hancock st., Bklyn
Harrison, J. S. *ph* 72 William st., Orange, N. J.
Harrison, M. F. 1 *b* Teachers College Hall
Harrison, R. C. 1 *c* 122 W. 64
Harold, G. C. 2 *m* 488 McDonough st., Bklyn
Hart, G. G. 2 *m* Larchmont, N. Y.
Hart, G. W. 3 *m* 89 Ross st., Bklyn
Hartman, W. L. 3 *m* 705 E. 9
Hartshorn, W. M. 2 *m* 350 W. 55
Harwood, E. C. *ph* 353 W. 119
Harwood, P. H. 1 *s* 353 W. 119
Harwood, S. P. 1 *l* 280 Amsterdam ave.

Hashi, H. *pl* 34 Prospect st., Bklyn
Hasking, A. P. 1 *m*
306 Varick st., Jersey City, N. J.
Hastie, J. D. 1 *m* 210 W. 88
Hatch, W. P., Jr. 2 *s* 324 W. 57
Haussling, F. R. 3 *m* 28 W. 61
Haussling, G. 2 *l*
3 R. R. pl., Newark, N. J.
Haven, S. C. 3 *m* 251 W. 55
Havens, S. M. 1 *l*
58 Morningside ave.
Havey, M. L. 3 *c* 323 E. 16
Haviland, E. C. *t* 122 W. 103
Haviland, H. F. 2 *s* 234 E. 31
Havill, O. A. 3 *s*
385 Grove st., Jersey City, N. J.
Hawkins, D. E. *pl* 526 W. 123
Hawkins, N. L. 2 *m* Islip, L. I.
Hawks, E. M. 4 *c* Tarrytown, N. Y.
Hayden, J. P. 2 *l* 337 W. 76
Haydock, A. sp *b* 407 W. 123
Haydock, C. E. 3 *c* 341 E. 50
Hayes, S. P. sp *pl* 50 E. 70
Haynes, R. S. 1 *m*
449 Greene ave., Bklyn
Hays, A. G. 2 *c* 264 W. 89
Hays, H. M. 1 *c* 264 W. 89
Hayt, R. A. 4 *m* 52 W. 38
Hayt, R. O. 3 *s* 2055 7th ave.
Hazay, M. 2 *m* 314 E. 3
Hazen, T. E. *p* 145 W. 66
Hazzard, H. C. 3 *l* 310 W. 115
Heaphy, J. C. 1 *m* 110 W. 84
Heck, W. H. *ph* 137 W. 103
Hedden, D. sp *b* 904 Lexington ave.
Heggie, R. M. *ph*
130 Rutledge st., Bklyn
Heimann, W. J. 3 *c* 123 W. 122
Heinekin, W. P. 4 *s*
New Brighton, S. I.
Helguson, K. A. 1 *m*
Heller, B. S. 3 *l* 108 W. 75
Hellman, A. M. 2 *c* 15 E. 92
Hellman, G. S. *ph* 36 W. 75
Helprin, B. E. 1 *m* 52 Pike st.
Henderson, A. C. 1 *m*
446 Clinton st., Bklyn
Henderson, A. M. *pl* Nyack, N. Y.
Henderson, M. L. *t* 417 W. 118
Henderson, R. G. sp *m* 153 W. 61
Hendrickson, C. *t* 71 W. 85
Hendrickson, C. Le R. 1 *c*
197 St. John's pl., Bklyn
Hendrickson, W. H. 1 *s*
Scarsdale, N. Y.
Henes, L. G 1 *s* 128 E. 93
Henne, C., 2d, 4 *s* 614 W. 113
Hennen, W. D. 1 *m*
N. Y. Athletic Club
Hennesey, J. F. 1 *m* Garfield, N. J.
Henriquez, C. L. 4 *m* 76 W. 89
Henry, E. T. 1 *m* 163 Congress st., Jersey City, N. J.
Hensel, O. 4 *m* 197 2d ave.
Hentschel, C., Jr. 1 *l*
771 Hart st., Bklyn
Herbert, E. 2 *m* 308 W. 58
Herlitzka, L. 1 *m* 97½ 7th st.
Herman, S. H. 2 *l* 54 E. 80
Heroy, J. H. 2 *c* 47 E. 66
Heroy, M. 3 *b* 47 E. 66
Hervey, A. M. 3 *m* 317 W. 58
Herzfeld, E. G. 1 *b* 147 W. 86
Herzig, A. J. 2 *m* 135 W. 120
Herzog, J. R. sp *m* 54 E. 93
Hess, A. F. 3 *m* 956 Madison ave.
Hess, M. I. *t* 152 Convent ave.
Hesselgrave, C. E. *ph*
Madison, N. J.
Heublein, A. C. 2 *m* 144 W. 65
Heuser, F. W. J. 3 *c*
178 Lorimer st., Bklyn
Hewins, N. P. gr *b* Maspeth, N. Y.
Hewitt, E. S. 3 *s* 306 W. 115
Heydt, C. E. 3 *l* 301 W. 91
Heyer, B. W. 2 *s* 318 W. 57
Heyman, S. 1 *l* 148 Newark ave., Jersey City, N. J.
Hickey, G. F. 3 *l*
726 Union st., Bklyn
Higgins, J. E. 2 *s* 264 W. 107
Higgins, S. L. 1 *m* Roselle, N. J.
Hildreth, H. R. *t* 530 W. 123
Hildreth, T. F. 3 *s* 530 W. 123
Hill, B. F. *p* "The Norwood," 126th st. and 7th ave.
Hill, B. H. *ph* 145 W. 66
Hill, E. 1 *b* 270 W. 123
Hill, F. 1 *s* 419 W. 118
Hill, L. 3 *s* 215 W. 54
Hill, M. W. sp *b* 29 Washington sq.
Hill, W. E. sp *ph* 62 W. 66
Hills, W. F. 1 *c* 366 W. 117
Hilton, I. L. sp *b* 73 5th ave
Hilton, J. M. *t*
410 Monroe st., Bklyn
Himes, O. R. *t* 2003 7th ave.
Hincks, R. B. 2 *c* 3133 B'way
Hino, M. *ph* 700 Park ave.
Hirsch, S. I. 2 *m* 70 E. 116
Hirschthal, M. 2 *s* 644 6th st.
Hirst, G. M. gr *b* 32 W. 40
Hirth, A. C. 1 *m* 129 W. 61
Hitchcock, C. K., Jr. 4 *s* 417 W. 117
Hoadley, H. 4 *c* 338 W. 56
Hoag, O. H. *t* Williamsbridge, N. Y.
Hoagland, W. L., Jr. *pl* 66 Brinkerhoff st., Jersey City, N. J.

Hochheimer, E. sp *p* 71 E. 91
Hochlerner, T. 3 *s* 204 Henry st.
Hodges, A. L. sp *ph* 309 W. 101
Hodgson, F. G. 3 *m* 122 W. 64
Hoffman, A. 1 *c*
217 Hewes st., Bklyn
Hoffman, I. M. 4 *c* 30 S. 13th ave.,
Mt. Vernon, N. Y.
Hogan, R. 3 *c* 313 W. 17
Hogan, T. 2 *c* 313 W. 17
Hoguet, H. A. L. 1 *s* 310 W. 78
Hoguet, R. C. 2 *s*
141st st. and Hudson River
Holcomb, H. V. V. 1 *m*
Mamaroneck, N. Y.
Holden, C. A. 1 *s* 470 E. 177
Holden, F. *t* 878 Flatbush ave., Bklyn
Holden, S. B. sp *ph* 63 W. 95
Holder, O. H. *p* 499 Fifth ave.
Holdridge, W. H. 1 *m* 419 W. 118
Holland, F. J. 3 *l* 165 W. 22
Holland, H. S. 2 *c* 473 W. 152
Hollis, I. M. *t* 85 W. 103
Holmes, C. S. sp *b* 39 Harrison ave.,
Montclair, N. J.
Holmes, G. J. 4 *m* 405 W. 57
Holt, C. 1 *s* 255 W. 45
Holt, E. B. *ph* 132 W. 79
Honnet, J. H. 4 *m* 335 W. 58
Hood, D. N. 4 *s* 368 W. 116
Hooker, R. S. 4 *m*
Hoole, L. P. 4 *m*
77A Monroe st., Bklyn
Hope, I. M. 1 *b* 130 W. 123
Hopkins, A. *t* 417 W. 118
Hopkins, G. G., Jr. 3 *s* 410 W. 115
Hopkins, J. G. 2 *c* 410 W. 115
Hopps, D. V. 1 *l* 409 W. 117
Horn, E. 1 *b* 115 N. 17th st.,
East Orange, N. J.
Hornor, R. R. 4 *s* 218 W. 123
Horowitz, I. 1 *m* 230 E. 7
Horowitz, J. 4 *m* 50 E. 130
Horsford, F. C. 4 *m* 58 Bank st.
Horton, M. B. sp *m*
New Canaan, Conn.
House, E. 1 *c* 247 W. 123
House, G. B. *t* 35 W. 82
Houston, H. E. *ph* Vreeland and
20th ave., Paterson, N. J.
Howard, C. M. 1 *b* 69 W. 88
Howe, J. P. 4 *c* 135 E. 38
Howland, M. S. sp *pl* 41 E. 69
Hoyt, R. P., Jr. 1 *c* 331 W. 83
Hubbard, G. C., Jr. 3 *s*
Tottenville, S. I.
Hubbard, M. *t* 145 W. 66
Hubbell, G. A. *t*
138 Ft. Greene place, Bklyn
Hubschmitt, A. W. 4 *m* 408 E. 52
Hudson, C. E. 3 *b* Astoria, N. Y.
Hudson, D. S. 3 *s*
157 Franklin st., Astoria, N. Y.
Huff, E. P. 1 *m* 219 E. 27
Huffaker, H. H. 2 *l*
Hughes, M. E. *t* 72 E. 77
Hulbert, E. J. gr *b* 457 W. 153
Hull, A. B. 1 *s* 53 W. 127
Hull, H. G. 1 *l* 18 W. 104
Hull, R. C. 4 *c* 410 W. 115
Hume, E. F. 3 *m* 103 W. 63
Humphreys, F. B. 1 *m* 146 E. 37
Hunn, J. S. *t* Mt. Vernon, N. Y.
Hunt, E. H. 2 *b* Walker road,
West Orange, N. J.
Hunt, P. D. 2 *c* 448 9th st., Bklyn
Hunter, C. S. *pl* Madison, N. J.
Huntsman, O. B. *ph* 138 W. 109
Huntting, G. H. 2 *c*
124 Quincy st., Bklyn
Hurd, E. C. 1 *m* Dover, N. J.
Hurd, M. gr *b* 417 W. 118
Hurt, J. C. sp *s* 344 W. 56
Hurwitz, W. C. 1 *m* 45 Ludlow st.
Hutchinson, F. 4 *b* 19 W. 93
Hutton, A. L. 2 *c* 319 W. 107
Hutton, E. H. 4 *m* 500 Madison ave.
Huxley, H. M. sp *ph* 133 W. 72
Hyams, S. *t* 29 W. 130
Hyatt, R. L. sp *s* 425 Park ave.
Hyde, H. St. J. *p* 210 E. 18
Hyde, J. S. 2 *m* 28 W. 61
Hyde, O. T. 3 *m* 343 W. 56
Hyman, W. M. 2 *s* 11 E. 80
Hynes, E. G. 4 *m*
132 New York ave., Bklyn

Iglehart, C. W. 2 *c* Newburgh, N. Y.
Iglehart, E. T. *pl*
Washingtonville, N. Y.
Immediato, G. 4 *s* 264 W. 121
Ingalls, E. M. 2 *b* 83 Maple ave.,
New Rochelle, N. Y.
Ingalls, F. C. 1 *m* 346 W. 58
Ingraham, D. P. 2 *l* 13 W. 9
Ingraham, E. S. *ph* 352 W. 120
Ingraham, I. F. 2 *m* 341 W. 55
Insley, R. B. 1 *l* 9 W. 19
Intemann, C. F. 1 *m*
97 4th ave., Bklyn
Irvine, F. B. 2 *s* 201 W. 57
Irving, P. F. 4 *c* 314 W. 115
Irving, R. E. L. *pl* 237 E. 104
Irwin, R. B. sp *m* 226 E. 31
Isaacs, A. sp *t* 288 W. 137
Isaacs, I. E. 3 *b* 110 E. 73
Isaacs, L. M. 3 *l* 110 E. 73
Isaacs, S. M. 1 *c* 110 E. 73

Iselin, L. 1 *c* 11 W. 52
Israeli, P. *ph* 736 Lexington ave.

Jaches, L. 1 *m* 175 Henry st.
Jackson, A. A. *t*
1161 Amsterdam ave.
Jackson, A. B. 2 *l* 168 W. 123
Jackson, A. R. gr *b* Fiske Hall,
Barnard College
Jackson, F. H., Jr. 3 *m* 347 W. 55
Jackson, F. J. sp *s*
Jackson, J. A. sp *m* Yale Club
Jackson, J. G. 3 *c*
116th st. and Riverside Dr.
Jackson, J. P. *t* 1270 Amsterdam ave.
Jackson, R. P. 2 *c*
432 St. Nicholas ave.
Jacob, W. H. 2 *m*
156 Jefferson st., Paterson, N. J.
Jacobia, sp *t* 819 E. 165
Jacobs, E. 3 *m* 134 W. 66
Jacobs, L. F. 3 *b*
365 Bainbridge st., Bklyn
Jacobsen, H. B. 1 *s* 2335 B'way
Jacobson, S. O. sp *s* 123 E. 82
Jacoby, G. W. 2 *s* 112 E. 70
Jacoby, L. 4 *m* 426 E. 115
Jacocks, H. H. 3 *c*
230 Central Park, South
James, F. W. 2 *s* 200 W. 98
James, M. T. 4 *s* 483 Manhattan ave.
Jarmulowsky, H. 3 *m* 102 E. 60
Jarvis, E. A. *t* 1161 Amsterdam ave.
Jedel, M. 4 *m*
362 Warren st., Newark, N. J.
Jellinghaus, C. F. 3 *m*
45 St. Mark's pl.
Jenkins, B. P. 2 *c* 21 W. 32
Jenkins, G. E. *t* 145 W. 2d st.,
Mt. Vernon, N. Y.
Jenkins, P. H. *p* 526 W. 123
Jenkins, P. W. *pl* 526 W. 123
Jenkins, R. W. 1 *l* 173 W. 85
Jennings, F. D. 2 *m*
Jennings, G. J. *t* Prince Bay, N. Y.
Jessup, W. C. 4 *s* 2465 B'way
Joffe, J. A. *ph* 787 St. Nicholas ave.
Johnson, A. R. 3 *b*
168 Hancock st., Bklyn
Johnson, A. S. *pl* 6 Convent ave.
Johnson, E. *t* 1161 Amsterdam ave.
Johnson, H. S. 2 *c* 417 W. 117
Johnson, J. B. 4 *c* 19 E. 9
Johnson, M. A. 1 *b*
417A Monroe st., Bklyn
Johnson, P. P. sp *m* 22 E. 47
Johnson, P. Van K. 4 *m* 127 W. 61
Johnson, W. A. sp *c* 137 W. 103
Johnston, C. O. 1 *s* 362 W. 121
Jonasch, O. S. sp. *ph* 167 E. 77
Jones, A. C. sp *pl* 435 W. 117
Jones, B. K. *t* 207 W. 102
Jones, F. F. *t* 417 W. 118
Jones, F. V. 4 *c* 53 W. 51
Jones, G. E. *t*
79 S. 11th st., Newark, N. J.
Jones, L. *t* 522 W. 123
Jones, M. D. 4 *m*
Far Rockaway, L. I.
Jones, M. P. *t* 522 W. 123
Jones, R. W. *t*
1270 Amsterdam ave.
Jones, S. F. 2 *m* 44 W. 44
Jones, T. J. *pl* 41 E. 69
Jones, W. B. 3 *m* 122 W. 64
Jones, W. G., Jr. sp *m* 543 W. 158
Joralemon, B. H. *t*
525 Scotland ave., Orange, N. J.
Joseph, I. J. 1 *l* 146 Clinton st.
Joseph, L. 3 *l* 146 Clinton st.
Josephson, E. 4 *s*
131 Amity st., Bklyn
Josephson, W. S. 2 *l*
131 Amity st., Bklyn
Josephthal, H. E. 3 *b* 30 E. 62
Josephthal, S. L. 2 *l* 30 E. 62
Judd, J. R. 3 *m* 317 W. 58

Kachline, F. E. *t* 72 W. 124
Kafka, H., Jr. 3 *s* 666 E. 140
Kahn, A. *t* 60 W. 114
Kahn, E. sp *c* 50 E. 83
Kahn, S. 4 *m* 405 E. 50
Kahnweiler, B. J. sp *b* 60 W. 75
Kahnweiler, W. S. *ph* 44 W. 44
Kaiser, C. S. 3 *s* Greenwich, Conn.
Kaiser, E. M. 2 *l* 1 W. 81
Kane, H. A. 3 *b*
167 Congress st., Bklyn
Kanner, S. H. 1 *m* 534 E. 88
Kanolt, C. W. 2 *s* 164 W. 105
Karger, L. 4 *b* 130 W. 91
Katzenstein, G. P. sp *m* 234 E. 61
Kauffman, W. A. *p* 312 W. 115
Kaufmann, A. 4 *s* 11 E. 66
Kaufmann, E. J. *t*
516 Manhattan ave.
Kaufmann, J. 1 *b* 58 E. 83
Kaufman, L. R. 2 *c* Brookside, N. J.
Kayser, H. C. A. 2 *l*
1063 Lexington ave.
Kayser, W. D. 1 *s*
1063 Lexington ave.
Keagey, E. *t* 49 W. 94
Keator, H. M. 2 *m* 317 W. 58
Kebler, J. L. 4 *s* 606 W. 114
Keeler, G. B. 3 *c*
386 Monroe st., Bklyn

Keeler, H. A. 1 *c* 782 6th ave.
Keenan, A. J. 2 *m*
138 St. James pl., Bklyn
Keiley, J. W. *ph* 35 W. 83
Keithley, R. H. 1 *s* 453 W. 155
Keller, E. 4 *b* 13 Livingston pl.
Kelley, R. H. sp *c* Hartsdale, N. Y.
Kellicott, W. E. *p* 252 W. 121
Kellock, H. A. 4 *c*
372 Manhattan ave.
Kellogg, D. C. 3 *b* 253 W. 109
Kellogg, H. K. W. 1 *m* 112 W. 61
Kellogg, O. K. 3 *b* 253 W. 109
Kelly, A. S. 4 *m* 117 E. 59
Kelly, D. F. 4 *c* 235 W. 69
Kelly, E. J. 1 *l*
Kelly, J. J. sp *c* 34 E. 69
Kelly, R. 2 *c* 119 E. 72
Kelsey, L. H. gr *b* 6 W. 83
Kemp, W. C. B. 4 *c* Hotel Lincoln
Kemp, W. T. 3 *l* 367 W. 117
Kempner, M. 3 *s* 204 Monroe st.
Kennard, W. S. 1 *m*
762 Broad st., Newark, N. J.
Kennedy, T. J. L. 4 *m* 131 W. 77
Kenney, F. J. sp *s* 214 E. 11
Kent, J. M. 1 *m* 347 W. 57
Kenvill, M. *t* 370 Union st., Bklyn
Kenyon, H. D. 1 *m* 308 W. 58
Keppel, D. 3 *s* 239 E. 17
Kernan, J. D. sp *m*
142 Fourth st., Elizabeth, N. J.
Kernan, J. D., Jr. 1 *m*
39 Liberty st.
Kessel, L. 1 *m* 21 E. 93
Ketchum, E. S. *t* Springfield, N. J.
Kidde, F. 4 *c* Montclair, N. J.
Kimball, V. L. 2 *b* Fiske Hall
King, A. E. *ph*
189 Halsey st., Bklyn
King, H. L. 1 *b*
805 Amsterdam ave.
King, I. J. *t* 85 Pierrepont st., Bklyn
Kingsbury, I. W. 1 *m* 248 E. 34
Kingsbury, S. F. 4 *b* 50 W. 38
Kinkead, G. B. 1 *l*
133 Manhattan ave.
Kinney, V. C. 2 *m* 144 W. 62
Kirchwey, C. B. *t* 605 W. 113
Kirkes, L. C. *pl* 237 E. 104
Kirkman, L. G. 4 *m* 145 W. 61
Kirkwood, J. E. *p*
2662 Decatur ave.
Kluttz, W. L. sp *pl* 361 W. 123
Knapp, C. B. 2 *m* 129 W. 61
Knapp, J. R. 4 *c* 62 W. 51
Knight, H. B. 3 *s* 519 W. 123
Knight, R. 2 *m* 116 W. 64
Knipe, J. B. 1 *m* 353 W. 24
Knipe, W. H. W. 1 *m* 353 W. 24
Knoell, C. J. 1 *l*
Knowles, F. 4 *m* 209 W. 118
Knowlton, F. K. 3 *s* 164 W. 122
Knox, T. H. *t* 370 W. 120
Knudsen, A. S. 4 *m* 44 W. 44
Koenig, E. B. 1 *c* 1329 Madison ave.
Koenig, H. L. 2 *l* 323 Washington st., Newark, N. J.
Koenig, N. A. 1 *c* 80 W. 12
Kohn, A. H. 3 *c* 334 W. 72
Kohn, L. 1 *b* 21 E. 77
Kohnstamm, L. S. 2 *s* 133 E. 71
Kooser, M. F. *t* 526 W. 123
Korn, H. 3 *c* 45 E. 74
Koronefsky, J. 4 *m* 53 Henry st.
Koscherak, F. 4 *s* 127 W. 82
Kraker, R. L. 3 *b* 519 W. 123
Kramer, D. 3 *m* 324 W. 33
Krauskopf, H. 2 *m* 236 E. 79
Krebs, M. H. 4 *m* 211 E. 71
Krehbiel, O. F. 2 *m* 16 W. 120
Kresel, I. J. 3 *l* 76 W. 102
Kretz, W. C. 3 *s* 133 W. 129
Kreuger, E. R. sp *t* 19 E. 32
Krickl, M. 4 *c* 28 W. 125
Kroeber, A. L. *ph* 316 W. 89
Kroeber, E. 1 *b* 316 W. 89
Kroener, G. A. 1 *m* 236 W. 44
Krug, E. F. 4 *m* 353 W. 56
Kuhr, E. O. 2 *m*
299 Stuyvesant ave., Bklyn
Kunz, W. E. *pl* 41 E. 69
Kydd, I. E. *t* 213 W. 102
Kyte, F. L. 4 *b* 153 W. 84

Lacey, R. A. 4 *s* 147 Amity st., Bklyn
Lamb, R. S. 1 *m*
Lambord, B. F. sp *ph* 310 W. 112
Lambrecht, J. W. 3 *l* 317 W. 138
La Monte, S. L. *t* Fiske Hall
Landes, E. W. 4 *m*
794 Parke st., Newark, N. J.
Lane, C. sp *b* 14 E. 12
Lane, C. J. 2 *s* 129 Rich ave., Mount Vernon, N. Y.
Lang, E. J. 3 *s* Hotel San Remo
Lang, E. M. sp *c* 52 E. 91
Lang, O., Jr. 1 *m*
Langer, S. *ph* 715 Bloomfield st., Hoboken, N. J.
Langmuir, I. 1 *s* 185 W. 135
Langs, J. P. 2 *c* 321 W. 116
Larendoux, R. E. *pl*
311 Riverside Drive
La Roche, P. B. 2 *c* 704 Madison ave.
Latham, M. E. 1 *b* 417 W. 148
Lathrop, E. R. gr *b*
141st st. and Convent ave.

Lathrop, S. S. 4 *m* 27 W. 60
Laurence, A. S. 2 *c* Stapleton, S. I.
Lavery, D. O'C. 2 *s* 351 W. 46
Law, C. T. 1 *s* 34 Gramercy Park
Lawrence, A. E. sp *p* 1 W. 81
Lawrence, A. N. 3 *s*
549 West End ave.
Lawrence, G. A. *p* 55 E. 65
Lawson, F. D. sp *ph* 244 W. 49
Lawson, J. H. 2 *m* 129 W. 61
Lawson, W. W. 2 *c*
146th st., cor. Mott ave.
Lay, C. D. 2 *s* 71 Willow Drive, New Rochelle, N. Y.
Lazard, M. P. *pl* 239 W. 122
Leale, L. 4 *c* 604 Madison ave.
Leavenworth, E. S. *t*
1161 Amsterdam ave.
Leavitt, S., Jr. 2 *s* 208 W. 72
Lebhor, N. J. 4 *m* 11 E. 108
Le Compte, I. C. sp *ph* 203 W. 123
Le Comte, J. R. 1 *m* 213 W. 130
Le Count, L. 4 *s*.
680 St. Nicholas ave.
Lederer, A. M. 3 *c*
Ridgewood, N. J.
Lederman, J. D. 2 *l* 38 E. 60
Ledoux, L. V. 2 *c* 39 W. 50
Ledwith, T. A. 3 *l* 23 W. 72
Lee, A. 2 *l* 100 B'way
Lee, E. 2 *c* 3 Gramercy Park
Lee, I. L. sp *pl* 136 W. 91
Lee, L. 2 *m* 122 W. 64
Le Fevre, F. E. 2 *c*
Low Point-on-Hudson, N. Y.
Lefferts, B. 1 *c* 308 Lexington ave.
Lefferts, F. B. 3 *s* 34 E. 65
Leffingwell, R. C. 1 *l*
26th st. and 11th ave.
Lehmacher, F. 3 *m* 166 Springfield ave., Newark, N. J.
Leiter, H. L. 1 *m* 77 W. 50
Leiter, M. M. 3 *l* 77 W. 50
Lemcke, E. G. *t*
36 Fuller Terrace, Orange, N. J.
Lenehan, E. *t* 1161 Amsterdam ave.
Leng, T. C. 1 *l* 4 Fletcher st.
Lennox, P. M. 1 *m*
Lent, M. F. 1 *m*
1037 Howard st., Peekskill, N. Y.
Leo, R. L. sp *ph* 327 W. 84
Leonard, A. J. 1 *m* 539 W. 44
Leopold, C. R. *t* 166 W. 87
Le Prince, L. A. W. 3 *s* 622 W. 152
Le Prince, L. F. 2 *s* 622 W. 152
Lesem, W. W. 1 *m*
89 Park st., Orange, N. J.
Lesinsky, L. 4 *c* 1109 Madison ave.
Lesser, J. M. sp *pl* 307 E. 55
Levens, B. *t* 1161 Amsterdam ave.
Lever, L. C. Y. *t*
52 St. Felix st., Bklyn
Levine, A. J. 3 *s* 337 W. 88
Levine, D. *ph* 239 E. 77
Levine, I. 1 *m*
25 N. 1st st., Paterson, N. J.
Levit, B. A. 1 *s* 99 Forsyth st.
Levy, C. 3 *l* 308 Alexander ave.
Levy, D. H. 3 *m* 926 Columbus ave.
Levy, E. 4 *m* 110 W. 78
Levy, F. G. sp *b*
Mount Vernon, N. Y.
Levy, I. H. 3 *m* 208 Broome st.
Levy, J. 1 *m*
231 Cumberland st., Bklyn
Levy, L. S. 2 *l* 519 W. 123
Levy, M. W. 4 *b* Fiske Hall
Levy, W. L. 3 *l* 1730 B'way
Lewine, J. L. 3 *l*
813 Lexington ave.
Lewis, E. H. 1 *l* 417 W. 114
Lewis, J. H. 3 *m* 34 W. 61
Lewis, M. H. 4 *s* 14 E. 120
Lewis, M. S. sp *b* Morristown, N. J.
Lewisohn, A. T. 1 *b* 9 W. 57
Lewy, H. M. 2 *c* 144 W. 93
Leyenberger, S. B. W. 3 *m*
98 3d ave., Newark, N. J.
Lichtenstein, O. R. 1 *l*
132 Amity st., Bklyn
Lidgewood, J. H., Jr. 3 *s*
505 W. 112
Lieb, C. C. 2 *c* 310 W. 58
Liebmann, C. sp *b* 125 E. 80
Lienau, C. C. sp *b* 48 W. 82
Lifshutz, N. 2 *m* 238 E. B'way
Liknaitz, D. *ph*
187 Hopkins st., Bklyn
Lillard, O. W. H. 1 *s* 138 W. 93
Lillis, M. J. sp *m* 208 Palisade ave., Jersey City, N. J.
Lindeman, M. 1 *s* 343 E. 15
Lindenmeyr, L. 3 *s* 240 E. 15
Lindsay, W. G. 3 *s* 69 W. 97
Lippincott, F. 4 *b* 65 W. 83
Lipsky, A. *pl* 516 W. 125
Littell, E. G. 1 *m* 635 Park ave.
Littell, R. J. 2 *c* Summit, N. J.
Littig, M. L. sp *b* 113 W. 47
Lloyd, E. H. sp *c* 4 W. 53
Lloyd, N. J. sp *s* 314 W. 115
Lobenstine, R. W. 4 *m*
245 Central Park W.
Locke, J. A. 1 *l* 303 W. 84
Lockhart, E. V. sp *c* 352 W. 120
Lockhart, L. S. 3 *l* 218 W. 139
Lockward, L. G. 4 *s*
483 Manhattan ave.

Lockwood, A. F. 1 *s* 339 W. 77
Lockwood, H. Le G. 1 *b* 441 Park ave.
Lockwood, S. P. 1 *c* 29 W. 56
Loder, E. A. 1 *s* 461 S. Main st., Port Chester, N. Y.
Loew, F. W. sp *pl* 25 W. 57.
Loew, H. K. 2 *m*
Logan, J. C. 3 *l* 367 W. 117
Logan, L. gr *b* Fiske Hall
Lohmann, H. sp *b* 222 W. 23
Loizeaux, E. S. 3 *m* 119 W. 64
London, J. F. *t* 206 Clinton st.
Loney, F. R. 3 *s* 65 E. 64
Long, M. W. sp *pl* 412 Lincoln st., Flushing, L. I.
Longacre, O., Jr. sp *s* Spuyten Duyvil
Longden, A. C. *p* 520 W. 123
Loomis, J. E. sp *b* 18 W. 75
Loos, H. A. *p* 119 E. 115
Loper, C. H. 1 *c* 12 Cambridge ave., Jersey City, N. J.
Lorber, H. 1 *m* 159 Suffolk st.
Lord, W. O. 1 *m* 117 W. 63
Lorenz, K. K. 3 *c* 168 W. 81
Loshe, L. D. gr *b* Stamford, Conn.
Loughran, E. Du B. 2 *m* 24 W. 50
Love, L. C. 4 *m* 318 W. 57
Lovell, H. *t* 1161 Amsterdam ave.
Lovemann, A. 3 *b* 210 W. 139
Lovemann, H. S. 1 *c* 210 W. 139
Lovenberg, I., Jr. 2 *l* 365 W. 123
Low, W. G., Jr. 3 *l* 30 E. 64
Lowe, W. sp *m* 43 Charles st.
Lowenstein, O. 4 *c* 42 E. 74
Lowenstein, S. A. 1 *l* 1270 Madison ave.
Lowrey, J. H. 2 *m* 446 Market st., Newark, N. J.
Lucke, C. E. gr *s* Kingsbridge
Luckey, G. W. A. *t* 600 W. 125
Ludlam, W. K. 3 *s* 8 W. 16
Ludlow, T. W. 1 *s* 375 Manhattan ave.
Ludwig, H., Jr. *t* 209 E. 109
Lum, R. E. 4 *c* Chatham, N. J.
Lunn, G. R. *pl* 41 E. 69
Lunt, H. F. 2 *s* 505 W. 112
Luper, D. B. sp *m* 44 W. 117
Lyall, H. J. 3 *l* 367 W. 20
Lyle, H. H. M. 4 *m*
Lyne, F. F. 1 *m* 156 W. 81
Lyon, E. N. 201 W. 85

McAleer, M. F. *t* 106 W. 61
McAlpin, E. A., Jr. *pl* 41 E. 69
McAnerney, J. A. 2 *s* 20 W. 49
McAuliffe, G. 1 *b* 233 W. 120
McBride, D. A. 1 *m* 143 W. 64
McCabe, J. 2 *m* 78 Washington pl.
McCabe, T. S. 2 *m* 400 Market st., Newark, N. J.
McCann, J. F., Jr. 1 *l* 352 W. 120
McCarthy, J. F. 3 *m* 47 Linden st., Yonkers, N. Y.
McCaskell, G. W. sp *s* 174 W. 126
McCaskell, J. A. sp *s* 320 Manhattan ave.
McCastline, W. H. 1 *m* 108 E. 81
McChesney, H. F. 2 *m* 143 W. 61
McClelland, G. W. sp *c* Dobbs Ferry, N. Y.
McClelland, J. F. 4 *s* 314 W. 115
McClure, A. J. 1 *c* 22 W. 49
McColgan, J. T. 2 *c* 169 Lexington ave.
McCollom, H. C. 1 *c* 195 Lefferts pl., Bklyn
McCollom, W. E. 1 *m* 195 Lefferts pl., Bklyn
McComas, H. C., Jr. *pl* 26 Morningside ave.
McConnell, L. T. sp *t* 145 Lenox ave.
McCready, M. A. *t* 422 W. 20
McCully, R. R. 3 *m* 220 W. 24
McDonald, J. E. 1 *c* 1275 B'way
McDowell, C. L. (Mrs. W. F.) gr *b* 2783 Broadway
McDowell, L. E. *t* Jamaica, L. I.
McDowell, M. S. gr *b* 116 W. 13
McDowell, W. St. L. 1 *s* 561 E. 139
McEntee, E. J. 3 *m* 144 Union ave., Bklyn
McFarland, G. H., Jr. 2 *m* 37 W. 90
McFarland, W. L. 3 *m* Park Ave. Hotel
McGill, E. L. 3 *m* 122 W. 64
McGonegal, H. S. 1 *l* 1272 Amsterdam ave.
McGrath, F. S. 2 *l* 75 W. 45
McGrath, J. J. sp *m* 174 High st., Bklyn
McGraw, T. A., Jr. 2 *m* 113 W. 40
McGraw, W. H. 2 *m* 1127 Dean st., Bklyn
McGrury, E. L. sp *t* 173 W. 99
McIntyre, T. A., Jr. 1 *s* 304 W. 75
McKeag, E. C. 3 *l* New Brunswick, N. J.
McKeighan, E. M. *t* Fiske Hall
McKelvey, J. P. 3 *m* 137 W. 64
McKenna, J. J., Jr. 4 *c* 104 W. 116
McKenney, A. P. 2 *b* Fiske Hall
McKenzie, E. T. 3 *m* 116 W. 84
McKeon, P. J. 3 *c* 239 W. 12
McKim, C. L. 3 *b* 69 Linden st., Yonkers, N. Y.

McKinstry, G. *t* 417 W. 118
McLaren, G. McF. *t* 74 W. 124
McLaughlin, A. J. 4 *m* 143 W. 61
McLaughlin, C. B. 1 *s* 63 W. 97
McLean, J. H., Jr. sp *m*
McLellan, H. D. 1 *l*
13 St. James pl., Bklyn
McLeod, E. *t* 1161 Amsterdam ave.
McLintock, A. 4 *s* 149 W. 79
McLintock, F. S. 1 *c* 149 W. 79
McLintock, H. M. 1 *c* 149 W. 79
McMulkin, M. J. *t*
52 Park pl., Bklyn
McMurray, F. R. 4 *c* 26 Hamilton terrace, Washington Hts.
McNaught, R. H. 2 *l* 325 W. 78
McNulty, J. J. sp *p* 58 Morton st.
McRae, J. *t* 505 W. 112
McSheehy, T. C. 2 *m* 277 W. 22
McWhood, J. K. 2 *c*
213 N. 6th st., Newark, N. J.
Macbean, W. A. B. 1 *m*
54 N. B'way, Tarrytown, N. Y.
Macdougall, C. W. 1 *s*
356 Linden ave., Elizabeth, N. J.
Macdougall, G. W. 4 *m* 129 W. 64
MacFarlane, W. G. *pl*
MacGuire, D. P. 2 *m*
24 Madison ave.
MacIntyre, C. B. 2 *c* 146 W. 12
Mackay, J. W. 3 *c*
446 Manhattan ave.
Mackenzie, K. K. sp. *l* 353 W. 123
Mackintosh, K. 3 *l* 214 W. 78
Maclay, R. *pl* 50 W. 57
MacLear, A. B. *t* Newark, N. J.
MacNaughton, J. L. sp *m*
2465 Broadway
Madelung, W. O. *p* 11 Mercer st.
Maeulen, F. 2 *s* 308 W. 115
Magalhães, H. W. *t*
66 Orange st., Bklyn
Magie, J. E. *ph* 17 W. 119
Magill, R. E. *t* 67 W 48.
Magnus, B. 4 *s* 22 E. 111
Mahan, L. E. 2 *c* 160 W. 86
Mairs, O. B. 2 *l* 174 W. 126
Maisenholder, E. F. 2 *s* 505 6th st.
Maitland, L. gr. *b* Fiske Hall
Major, H. C. 1 *s* 122 W. 47
Malcolm, J. D. 1 *m* 313 W. 112
Mangam, E. C. *t*
290 Stuyvesant ave., Bklyn
Mann, N. L. *t*
224 47th st., Bklyn
Manning, A. sp *b* 134 W. 34
Manning, E. B. *ph*
516 Carnegie Hall
Mantinband, J. 4 *m* 113 2d st.
Manton, M. T. 2 *l*
946 Gates ave., Bklyn
Mapelsden, E. H. 4 *b*
881 Union st., Bklyn
Mapes, C. M. 3 *s* 137 W. 129
Mapes, C. S. 3 *c* 60 W. 40
Marcus, J. 1 *l* 543 Manhattan ave.
Margulies, I. 4 *m* 209 E. 114
Margulis, J. 4 *m* 196 E. 7
Markham, C. L. 1 *m*
Haverstraw, N. Y.
Marks, S. B. 1 *m* 129 W. 61
Markson, H. M. *ph* 11 E. 101
Marsden, A. W. 1 *l* 269 W. 121
Marsh, E. J., Jr. 4 *m*
600 Park ave., Paterson, N. J.
Marshal, E. S. R. *t* 219 E. 110
Marshall, B. P. *pl* 41 E. 69
Marshall, C. B. 1 *l* 363 W. 123
Marshall, F. M. gr *b* 34 W. 131
Marshall, J. B. gr *b* 50 W. 54
Marston, C. S. 2 *s* 309 W. 45
Martin, A. H. gr. *b*
1182 Madison ave.
Martin, F. 1 *s*
Blythelea, West Orange, N. J.
Martin, H. W. sp *ph* 29 E. 21
Martin, P. F. 4 *m* 122 W. 71
Martin, T. 1 *m* 125 W. 62
Martin, T. A. 4 *m* 436 Lenox ave.
Martin, U. F. 4 *m* 447 W. 57
Mason, L. J. 4 *m* 127 W. 62
Mason, W. 2 *m* 560 Park ave.
Mast, J. *t* 140 Halsey st., Bklyn
Masury, J. W. sp *c*
440 West End ave.
Mather, H. R. 4 *c* 363 5th ave.
Mathiasen, W. sp *s* 111 W. 103
Matsuyama, C. *pl* 360 W. 120
Matthew, G. *ph* 408 W. 115
Matthews, F. C. 2 *m*
H. R. Day Line, Desbrosses st. pier
Mattice, H. A. 3 *c*
Westchester, N. Y.
Matty, L. J. 2 *s* 322 W. 113
Maule, F. H. 1 *m* Princeton Club
Maxwell, G. E. *t* 522 W. 123
Maxwell, W. H., Jr., 4 *c*
446 Manhattan ave.
May, E. C. 1 *b* 205 W. 57
Maynard, L. sp *t* 2013 5th ave.
Mead, L. D. 2 *m* 151 W. 80
Meagher, J. F. W. 3 *m*
35 Willow pl., Bklyn
Meagher, M. M. *t* 317 W. 58
Meehan, J. A. 3 *s*
860 West End ave.
Meehan, V. G. 1 *s* 215 E. 61

Meek, E. D. *t* 524 W. 123
Meeker, A. Y. 4 *c* Glenridge, N. J.
Meeker, H. D. 2 *m* 300 Park ave., Orange, N. J.
Meeker, R. *pl* 363 W. 123
Meeks, A. M. *t* 17 W. 84
Meeks, C. G. 2 *c* Union, N. J.
Meeks, R. 3 *s* 17 W. 84
Megrue, R. C. 1 *c* 520 W. 123
Mehler, A. J. 4 *c* 619 West End ave.
Meissner, W. C. 3 *s* 48 W. 28
Mendes, M. P. *t* 72 W. 85
Menges, P. C. 2 *s* 419 W. 47
Menk, P. E. W. 4 *m* 405 W. 57
Menline, J. S. 2 *l* 356 E. 69
Menocal, D. A. 1 *c* 251 W. 81
Merchant, M. H. 3 *m* 139 W. 61
Merrell, H. B. 2 *c* Upper Montclair, N. J.
Merrill, S. B. *t* 1161 Amsterdam ave.
Merry, F. C. 2 *s* 219 W. 135
Mersereau, G. 1 *s* 258 W. 127
Mertz, D. F. *t* 239 W. 112
Messick, T. B. *t* 1842 7th ave.
Metzger, W. J. 1 *l* 367 Manhattan ave.
Meyer, J. J. sp *m* 2065 Madison ave.
Meyer, J. L. *t* 520 W. 123
Meyer, R. B. 3 *c* 58 W. 113
Meyer, W. H. 2 *m* 190th st. and Amsterdam ave.
Meyers, R. A. 2 *c* 38 Bleecker st.
Middleton, G. sp *c* 151 W. 13
Miki, S. *pl* 519 W. 123
Milan, C. W. 1 *l* 2056 7th ave.
Miles, G. F. sp *c* Hotel Chelsea, W. 23d st.
Milke, E. E., Jr. sp *c* 82 Lembeck ave., Jersey City, N. J.
Miller, A. E. *t* 919 Le Grande ave., Plainfield, N. J.
Miller, E. A. *t* 521 W. 123
Miller, E. W. sp *m* Nyack, N. Y.
Miller, F. H. 4 *m* 212 Hooper st., Bklyn
Miller, G. A., Jr. 3 *s* Montclair, N. J.
Miller, G. H. sp *pl* 128 Riverside Drive
Miller, H. 1 *l* Jamaica, L. I.
Miller, J. W. 1 *b* 155 W. 21
Miller, J. W., Jr. *p* 312 W. 115
Miller, M. A. C. sp *b* 2042 5th ave.
Miller, N. D. 2 *l* 235 W. 120
Miller, W. L. 1 *s* 314 W. 115
Milliken, S. M., Jr. 2 *m* 990 Madison ave.
Mills, C. S. sp *b* 220 W. 69
Mills, F. H. 3 *l* 86 E. 56
Mills, H. J. 3 *s* 314 W. 115
Millspaugh, W. P. 4 *m* 447 W. 57
Milne, W. E. 2 *l* Englewood, N. J.
Miner, E. D. 3 *l* 1150 Forest ave.
Minsky, A. H. 3 *s*
Mitchell, A., Jr. 1 *m* 346 W. 58
Mitchell, C. T. gr *b* 515 Madison ave.
Mitchell, E. sp *b* 51 W. 25
Mitchell, E. B. 3 *c* Flushing, L. I.
Mitchell, E. G. sp *b* East Orange, N. J.
Mitchell, G. H. 1 *l* 2 W. 82
Mitchell, I. M. *t*
Mitchell, I. M. *t* 64 W. 39
Mitchell, J. R. *t* 1109 Garden st., Hoboken, N. J.
Mitchell, M. J. *t* Bedford Park, N.Y.
Mitchell, N. sp *b* Linden Hill, Flushing, N. Y.
Mitchell, R. J. 3 *m* 911 West End ave.
Mitchell, T. C. *ph* 151 W. 47
Mitchell, W. E. sp *s* 239 W. 105
Mittendorf, G. S. 1 *l* 140 Madison ave.
Modry, A. S. sp *c* 140 E. 74
Moën, L. 1 *s* 308 W. 77
Moën, M. W. 1 *b* 308 W. 77
Moffatt, M. R. 3 *s* Mamaroneck, N. Y.
Moffett, J. T. sp *b* Fiske Hall
Moffett, S. E. 4 *c* 351 W. 114
Mohr, A. G. *pl* 17 Bedford st.
Mohr, F. J. 1 *s* 530 W. 142
Moller, F. 1 *l*
Molony, J. J. 1 *m* 332 W. 31
Monroe, P. W. 2 *m* 35 Caryl ave., Yonkers, N. Y.
Montgomery, M. G. sp *s* 419 W. 118
Montgomery, W. C. 4 *m* 5 W. 74
Moody, H. R. *p* 159 W. 105
Moore, A. L. gr *b* 65 W. 126
Moore, C. C. 4 *m* 224 W. 71
Moore, C. H. *ph* 7 W. 65
Moore, C. MacD. 1 *s* 610 W. 152
Moore, H. sp *c* 346 Broadway
Moore, J. B. 3 *c* Nanuet, N. Y.
Moore, M. W. 2 *b* 221 Passaic ave., Passaic, N. J.
Moore, R. W. sp. *m* 242 W. 113
Moore, W. U. 4 *c* 203 W. 117
Moorhead, H. G. 1 *l* 231 Lenox ave.
Moorman, J. P. sp *t* 944 Boulevard
Morey, A. T. 3 *l* 222 W. 123
Morgan, G. W. 3 *l* 111 W. 68
Morgan, H. A. 1 *m* 345 W. 57
Morgans, F. D. 3 *s* 373 Monroe st., Bklyn

Mork, S. 3 *l* 2173 Bathgate ave.
Morlath, W. sp *p* 1821 Madison ave.
Morley, F. H. 2 *s* 505 W. 112
Morley, W. R. sp *s* 435 W. 117
Morrell, F. A. 1 *s* 401 W. 34
Morrill, W. C. 4 *s* 24 W. 83
Morris, A. F. 1 *l* 11 W. 69
Morris, L. sp *m* 103 E. 62
Morrison, A. B. 3 *l* 684 E. 143
Morrison, C. E. 3 *s* 152 W. 99
Morse, L. B. sp *pl*
17 Lexington ave.
Moschcowitz, E. 4 *m* 152 W. 64
Mosenthal, H. O. 1 *m* 16 W. 85
Mosenthal, W. J. 3 *c* 16 W. 85
Moses, J. G. 1 *c* 118 W. 111
Mosler, F. H. 2 *m* 136 W. 97
Moss, L. H. 4 *m* 100 W. 77
Mott, H. L. sp. *c* 769 11th ave.
Moynan, W. T. 3 *m*
134 Hooper st., Bklyn
Mueller, A. C. 2 *l*
320 Manhattan ave.
Muirheid, J. 4 *c* 371 W. 117
Mulcahy, T. A. 3 *m* 117 W. 63
Mulford, S. S. 1 *c*
Morton House. 14th st. and B'way
Mulligan, G. H. D. 1 *l*
71 Washington st., Newark, N. J.
Mulligan, J. R. B. 1 *l*
71 Washington st., Newark, N. J.
Mund, C. 4 *m* 308 E. 62
Murfin, A. M. *pl* Care of Kynast,
444 Manhattan ave.
Murphy, F. W. 1 *m*
Murphy, G. H. 1 *m* Rosebank, S. I.
Murphy, J. A. *ph* 615 Charles st.,
West Hoboken, N. J.
Murphy, J. D. 2 *m* 424 W. 57
Murphy, J. L. 1 *s* 19 E. 83
Murphy, W. A. 2 *s* 119 E. 91
Murphy, W. L. 3 *l* 367 W. 117
Murray, A. *p* Morristown, N. J.
Murray, H. C. sp *b*
593 West End ave.
Murray, W. S. *ph*
759 St. Nicholas ave.
Myers, D. M. 3 *s* 309 W. 70
Myers, D. S. 2 *l* 108 E. 55
Myers, S. I. gr *b* 309 W. 70
Myers, V. M. 1 *l* 571 Park ave.

Nadeau, O. *ph* 15 E. 59
Nammack, E. F. gr *b* 167 W. 83
Nash, S. P. 3 *c* 115 E. 57
Nash, W. G. 1 *m*
Nation, B. B. *p*
218 Nelson ave., Peekskill, N. Y.
Natori, W. *pl* 158 W. 123
Navoni, J. F. 4 *m* 150 Sullivan st.
Naylor, F. L. sp *s* 1321 Broadway
Neff, C. M. 1 *l* 306 W. 123
Neidlinger, C. R. *pl* 219 W. 104
Neiman, L. 1 *c* "The Montana,"
35 Mt. Morris ave.
Neish, A. C. *p* 281 W. 119
Neiswender, A. B. C. 2 *b*
923 Marcy ave., Bklyn
Nelson, F. A. 4 *s* 108 W. 84
Nelson, G. A. 4 *c*
235 E. 11th st., Bklyn
Nelson, L. M. *ph*
279 Decatur st., Bklyn
Nelson, N. W. 1 *m* 60 W. 97
Nesbit, W. M. 2 *c*
482 Central Park West
Neu, S. S. 3 *s* 20 W. 94
Neugroschl, A. E. 4 *c* 1403 5th ave.
Neumann, W. 1 *m* 131 Norfolk st.
Newborg, H. 4 *b* 33 E. 67
Newborg, L. D. 4 *c* 33 E. 67
Newcomb, V. 4 *b* Fiske Hall
Newlands, D. Mc.M. 2 *s* 137 E. 40
Newman, E. L. 2 *b* Riverside, Ct.
Newman, F. B. sp *pl* 41 E. 69
Newman, F. J. 1 *m*
1655 Madison ave.
Newman, S. L. 3 *m* 133 Division st.
Newton, E. B. 1 *b* 47 N. Willow st.,
Montclair, N. J.
Nicholas, P. C. *t* 223 W. 122
Nichols, E. E. *t* 125 Lefferts pl.,
Bklyn
Nicoll, A. 1 *m* 771 B'way.
Nicoll, F. 1 *l* 115 W. 77
Nicoll, L. F. 1 *m*
Care of C. A. Peabody, Jr.,
2 Wall st.
Niles, M. I. *t* 311 W. 119
Noble, H. G. *t* 31 Hoboken ave.,
Jersey City Heights, N. J.,
Noll, F. A. 3 *l* 353 W. 119
Nones, S. F. 1 *b* 159 W. 78
Noonan, C. J. 4 *m*
554 Henry st., Bklyn
Noonan, T. F. 3 *l* 252 W. 25
Nordby, C. H. *ph* 28 W. 132
Norman, M. W. 4 *c* World Building
Norris, B. F. 3 *l*
254 Lafayette ave., Bklyn
Norsworthy, N. *t*
Rutherford, N. J.
North, C. E. 4 *m* 318 W. 57

Oakley, W. L. 3 *s* 56 E. 49
O'Brien, T. E. 4 *c*
247 Marcy ave., Bklyn
O'Connor, E. F. *t* 473 E. 150

O'Crowley, C. R. 1 *m*
552 Broad st., Newark, N. J.
Oddie, H. H. 3 *s* 59 W. 48
Odell, H. R. sp *c* 112 W. 81
Odell, L. S. 1 *c* 96 Henry st., Bklyn
O'Donovan, L. J. 2 *s* 37 W. 36
O'Dwyer, F. X. 1 *s* 2420 7th ave.
O'Dwyer, J. 4 *m* 2420 7th ave.
Ogan, M. L. 1 *m* 217 W. 42
Ogden, C. J. 4 *c* 250 W. 88
O'Geran, A. S. *t*
500 De Bevoise ave., Astoria, L. I.
O'Grady, C. G. *t* Fiske Hall
O'Leary, W. J. 1 *m* 236 W. 55
Olmstead, H. B. 2 *s* 519 W. 123
Olmstead, S. H. gr *b* 417 W. 118
Olmsted, L. R. sp *b* 142 E. 40
O'Loughlin, C. S. 1 *l*
1270 Amsterdam ave.
O'Loughlin, G. S. 1 *c* 521 W. 149
Onderdonk, A. 1 *s*
Buckingham Hotel
O'Neill, H. P. 2 *m* 175 W. 97
Opdyke, F. M. gr *b* 55 Clinton ave.,
Jersey City
Oppenheim, F. M. 2 *b* 118 W. 71
Oppenheimer, B. S. 3 *m* 201 W. 85
Oppenheimer, F. 3 *b* 31 W. 74
Orgel, D. H. 4 *m* 736 E. 9
Ornstein, M. gr *b* 147 W. 71
O'Rourke, C. A., Jr. 2 *s*
1110 Ogden ave.
O'Rourke, M. F. 2 *m* 308 E. 13
Orr, L. H., Jr. 1 *c* 250 W. 91
Osborn, B. M. 3 *b*
82 S. Broadway, Yonkers, N. Y.
Osborn, C. W. 1 *c* 1855 7th ave.
Osborne, E., 4 *b* 1228 Madison ave.
Osborne, H. S. 1 *s*
1228 Madison ave.
Osgood, C. 1 *m* 346 W. 58
O'Shea, J. E. 3 *s* 31 W. 88
Ossoski, S. 1 *l*
Ostrom, C. W. 1 *s*
255 8th st., Jersey City, N. J.
Otis, S., 1 *s* Yonkers, N. Y.
Ottenberg, R. 2 *c* 58 E. 92
Owens, G. C. 1 *m*
Owens, R. J. Jr., sp *pl* 2168 7th ave.

Packard, M. 4 *m* 365 W. 55
Pagani, M. J. sp *t*
39½ Washington sq.
Page, A. W. 2 *m* 343 W. 55
Page, B. E. 1 *l* 419 W. 117
Page, R. W. 3 *s* 527 3rd st., Bklyn
Palliser, B. S. 1 *s*
Dobbs Ferry, N. Y.
Palmenberg, O. W. 3 *s* 107 W. 70
Palmer, A. R. *t* 417 W. 118
Palmer, A. W. 3 *c* 74 Arlington ave.,
East Orange, N. J.
Palmer, F. L. *t* Tenafly, N. J.
Palmer, L. A. sp *t* 235 E. 18
Palmer, L. M. *t* 520 W. 123
Palmer, L. R. 1 *m* 33 W. 65
Pannaci, C. E. E. 4 *m* 141 W. 64
Pappenheimer, A. M. 2 *m* 40 E. 56
Park, H. M. sp. *m* 257 W. 23
Parker, G. 4 *c*
2d ave. and 67th st., Bklyn
Parker, L. R. 3 *s* 345 State st., Bklyn
Parkinson, J. Mc.D. 1 *m* 345 W. 57
Parks, J. W. 1 *l* 103 E. 21
Parr, H. L. 1 *c* Yonkers, N. Y.
Parsons, B. *t* 417 W. 118
Parsons, C. sp *b* 30 E. 36
Parsons, G. 1 *l* Hempstead, L. I.
Parsons, G. S 1 *l*
267 Halsey st., Bklyn
Parsons, I. D. 3 *s* 344 W. 23
Parsons, T. 1 *l* Hempstead, L. I.
Pascual, W. V. 4 *m*
263 Stuyvesant ave., Bklyn
Paterson, D. C. 1 *m* 136 W. 104
Patterson, H. S. 4 *m* 19 E. 45
Peabody, J. R. 1 *m* 122 W. 64
Peacock, D. L. *pl* 275 W. 114
Pearson, C. E. 4 *m*
32 Central ave., New Brighton, S. I.
Pease, T. N. 1 *m*
482 Fulton st., Bklyn
Peet, T. *ph* 22 W. 45
Pegram, G. B. *p* 193 Waverly pl.
Pegram, R. B. 3 *c* 129 E. 40
Pelgram, G. O. 3 *m*
91 Riverside Drive
Pell, W. 2 *c* Riverside Drive and 116
Pelton, E. C. *t* 1268 Amsterdam ave.
Pelton, R. T. 1 *s* 314 W. 115
Penny, C. J. sp *ph* 104 E. 55
Pentlarge, V. H. 2 *m* 441 W. 57
Perkins, A. J. G. gr *b*
71 Madison ave.
Perkins, A. L. gr *b* 112 W. 40
Perkins, E. C. 2 *l* 317 W. 58
Perkins, N. 2 *l* 5 E. 40
Perrin, E. N. *ph* 17 Lexington ave.
Perrine, W. W., Jr. 2 *c*
820 West End ave.
Perry, O. B. 4 *s* 343 W. 121
Perry, T. L. 1 *c* 102 E. 57
Perry, W. C. *t*
Bedford Station, N. Y.
Peters, F. A. sp *ph* 1052 Tiffany st.
Peters, G. M. 2 *b* Fiske Hall
Peters, H. T. sp *c* 117 E. 37
Peet, T. *ph* 22 W. 45

Pfizer, A. M. H. gr *b* 295 Washington ave., Bklyn
Pfletschinger, F. 2 *m* 333 W. 58
Phelan, J. M. sp *m* 102 39th st., Bklyn
Phelan, N. sp. *t* 317 W. 58
Phelps, E. 2 *b* Fiske Hall
Phillips, F. G. 2 *m* 308 W. 58
Phillipson, P. H. *t* 138th st. and 10th ave.
Phœnix, J. L. *t* 1842 7th ave.
Picher, O. S. 2 *l* 101 W. 73
Pickhardt, W. P. 3 *s* 1042 Madison ave.
Pier, V. S. 3 *m* 238 W. 11
Pierce, E. F. 3 *m* 141 W 63
Pierpont, D. C. 1 *m* 346 W. 58
Pierson, E. B. *t* 151 Williams st., Orange, N. J.
Pierson, H. M. 1 *m* Roselle, N. J.
Pigott, S. J. 1 *s* 169 E. 64
Pilcher, P. M. 4 *m* 318 W. 57
Pilgrim, Y. C. *t* Phillipsburg, N. J.
Pindar, F. S. 4 *m* 318 W. 57
Pinkney, C. S. 1 *l* 716 Madison ave.
Pinneo, F. W. 3 *m* 318 W. 57
Pitshke, E. J. 1 *c* 365 W. 119
Pitt, R. 4 *s* 254 Cedar Road, New Rochelle, N. Y.
Pittman, J. G. 4 *m* 127 W. 62
Place, L. gr *b* Fiske Hall
Planten, W. R. J. 3 *l* 44 8th ave., Bklyn
Platt, M. C. 3 *l* 306 W. 139
Plonsky, S. E. 4 *s* 50 W. 88
Plotz, I. I. 4 *m* 48 Rivington st.
Plum, H. G. *pl* 227 W. 122
Plumb, C. C. *t* 345 Greer ave., Elizabeth, N. J.
Poindexter, A. M. 1 *m* 51 Leonard st.
Polatsak, H. B. 4 *m* 243 7th st.
Pollak, A. W. 2 *m* 346 E. 58
Pollak, M. 3 *b* 210 W. 139
Pollak, W. V. 2 *b* 425 West End ave.
Pollard, D. H. 4 *c*
Pollock, H. W. 2 *l* 2333 8th ave.
Pollock, R. *t* 1161 Amsterdam ave.
Pollok, A. sp *t* 309 W. 113
Pollok, T. sp *t* 309 W. 113
Pond, C. M. 1 *s* Port Chester, N. Y.
Pond, O. L. 1 *l* 146 W. 104
Pool, E. M. 1 *b* 267 W. 79
Poole, K. E. 1 *b* 651 Madison ave.
Pope, J. E. *pl* 12 Convent ave.
Port, M. A. gr *b* 344 W. 51
Porter, E. P. 4 *m* 43 W. 60
Porter, J. S. sp *b* 37 E. 63
Posner, E. R. 1 *m* 144 W. 64
Post, W. McI. 3 *m* 348 W. 58
Potter, A. P., Jr. 2 *c* 50 W. 48
Potter, De A. B. sp *m* 2303 7th ave.
Potter, M. sp *t* 50 W. 55
Potter, P. S. 1 *m* 316 W. 56
Potts, R. B. 2 *c* 39 E. 39
Pou, R. E. 1 *m* 103 Waverly pl.
Powell, C. S. *p*
Powers, F. M. *t* 228 W. 105
Powers, W. H. 2 *s* 8 W. 50
Prager, G. L. *t* 62 W. 131
Pratt, H. L. sp *b* 417 W. 118
Pratt, J. B. 1 *l* 174 W. 126
Prentice, A. C. 3 *m* 127 W. 62
Prentice, H. W. sp *m* 127 W. 62
Prentis, A. V. sp *m* 112 E. 22
Preston, J. F. 3 *b* Fiske Ha
Preston, P. B. 3 *m* 218 Walnut st., Newark, N. J.
Pretzfeld, C. J. *p* 87th st. and Madison ave. Care of "The Clark"
Pretzfeld, H. F. 1 *l* 59 E. 83
Prevey, C. E. *pl* 8 Convent ave.
Prince, H. S. 2 *c* 217 W. 122
Pringle, E. G. 3 *l*
Proctor, D. G. sp *c* 307 W. 82
Proper, E. E. *pl* Boys' High School, Bklyn
Prosser, M. B. sp *b* 58 W. 104
Prout, G. P. 2 *s* Nutley, N. J.
Province, O. A. 2 *m* 161 W. 64
Puente, A. M. 1 *m* 338 W. 59
Pullich, O., Jr. 2 *c* 136 W. 111
Putnam, A. W. 3 *l* 16 W. 77
Putnam, E. W. 1 *c* 306 W. 77
Pyle, F. W. 2 *m* 316 W. 57

Quackenbos, G. P. 4 *c* 331 W. 28
Quackenbush, L. S. 3 *s* 142 W. 57
Quel, B. 4 *m* 43 Canal st.
Quell, J. A., Jr. 2 *m* 478 Decatur st., Bklyn
Queneau, A. L. J. 3 *s* 362 W. 121
Quimby, W. O'G. 4 *m* 80 Columbia st., Newark, N. J.
Quinn, W. R. 2 *c* 659 10th st., Bklyn
Quinn, W. T. 1 *l* 174 W. 126

Rabinovitz, M. 4 *m* 119 Orchard st.
Radin, H. T. 2 *m* 347 E. 116
Radin, M. *ph* 347 E. 116
Rae, J. G. 3 *s* 953 Home st.
Rafferty, W. B. *t* New Brighton, S. I.
Raiman, R. I. 4 *c* 492 Madison st., Bklyn
Raisbeck, P. V. 1 *c* P. O. Box 152, Pelham, N. Y.

Randall, H. T. 3 *l* 501 W. 125
Randolph, F. P. 3 *l* 51 E. 29
Raper, C. L. *pl* 463 Manhattan ave.
Rappold, G. A. 2 *s*
750 Flushing ave., Bklyn
Ratzell, J. P. *pl* 126 W. 65
Rauh, F. E. 1 *b* 54 E 73.
Ray, D. H. 3 *s* 416 W. 55
Ray, M. H. *t* 416 W. 55
Raymond, E. H., Jr. 4 *c*
Summit, N. J.
Raynolds, H. F. 2 *l* 367 W. 117
Rea, P. M. *p* 993 Amsterdam ave.
Read, C. P. 3 *s* 75 E. 54
Read, T. T. 2 *s*
85 Cumberland st., Bklyn
Recknagel, H. S. 2 *l*
161 Herkimer st., Bklyn
Recknagel, W. E. 1 *m*
care J. H. Cahill, 18 Cortlandt st.
Reed, D. C. 4 *s* 129 Lexington ave.
Reed, E. L. *t* 221 W. 4
Reed, R. R. sp *c* 28 W. 39
Reed, W. C. 2 *m* 406 W. 19
Reich, S. *ph* 707 E. 149
Reichers, G. H. 4 *m*
1139 Broadway, Bklyn
Reid, F. E. *t* 762 Garfield ave.,
Jersey City, N. J.
Reid, R. L. 1 *m* sp *c* 148 W. 91
Reiley, E. T. B. 4 *b* 2337 7th ave.
Reiley, K. C. gr *b* 2337 7th ave.
Reiley, R. J. 4 *s* 145 E. 34
Reilly, B. J. *t* 289 East Broadway
Reilly, F. P. 3 *l* 367 W. 117
Reinhardt, E. 3 *m*
1694 Lexington ave.
Reinsberg, C. H. 4 *m* 34 Varick st.
Reis, L. R. 2 *s* 609 West End ave.
Reisman, S. C. 3 *m* 260 7th st.
Reiss, H. 4 *m* 301 E. 8
Rennert, R. J. 3 *b* 98 E. 114
Requa, L. F., Jr. 2 *l*
400 West End ave.
Reynolds, G. 3 *m* 330 W. 58
Reynolds, H. B. 4 *m* 127 W. 61
Reynolds, J. J. *t* 540 E. 164
Reynolds, J. S. 1 *m*
Reynolds, M. T. 3 *m* 558 7th ave.
Rhoades, L., Jr. 2 *c* 132 W. 70
Rhodes, G. B. 2 *m* 21 W. 65
Rice, J. F. 2 *m* 141 W. 63
Rich, L. H. 1 *l* 31 Moore st., Bklyn
Richardson, R. 3 *l*
45 Percy st., Flushing, L. I.
Richmond, J. P. W. 2 *s*
1144 Tinton ave.
Riederer, H. S. *p* 145 W. 94
Riegelman, C. A. 1 *l* 70 W. 94
Riegelman, I. W. *ph* 70 W. 94
Riggio, L. D. 3 *m* 79 E. 114
Riggs, A. F. 2 *m* 15 W. 39
Riggs, L., Jr. 1 *c* 105 E. 18
Riley, M. I. W. 3 *l* 227 W. 12
Ringer, P. H. 2 *c* 312 Manhattan ave.
Ringland, R. F. 1 *m* Montclair, N. J.
Rionda, J. B. 3 *s* 464 W. 145
Rionda, L. J. 2 *s* 464 W. 145
Rionda, M. E. 4 *s* 141 W. 93
Ripley, J. A. 3 *s* 23 W. 57
Robbins, W. H. 3 *l* 367 W. 116
Roberts, A. 2 *s* 604 W. 114
Roberts, E. C. 3 *b* 189 Madison ave.,
Flushing, N. Y.
Roberts, H. E. *t* Mt. Vernon, N.Y.
Robertson, J. N. *t*
476 Broadway, Paterson, N. J.
Robinson, A. 3 *s* 17 E. 49
Robinson, A. M. 1 *b* Sayville, L. I.
Robinson, B. R. 2 *l* 42 W. 37
Robinson, E. M. 1 *m*
465 Amsterdam ave.
Robinson, F. W. *ph* 620 E. 135
Robinson, H. F. 2 *l* 42 W. 37
Robinson, M. W. 1 *s* 15 Broad st.
Robinson, R. M. 3 *l* 58 W. 105
Rockwell, G. C. 1 *m* 11 W. 103
Rode, H. *pl* 237 E. 104
Rodriguez, F. 1 *s* 10 W. 82
Roell, A. J. 3 *s* 1065 2d ave.
Rogers, A. 3 *m* 318 W. 57
Rogers, H. M. 1 *b* Fiske Hall
Rogers, J. J. 3 *m* 318 W. 57
Rogers, J. S. 2 *l* 35 W. 49
Rogers, T. F. 2 *l* 327 W. 124
Rogers, W. J. 2 *s* Hotel San Remo,
Central Park, W.
Rogers, W. L. 1 *l* Nutley, N. J.
Rokeach, A. 1 *m* 216 Henry st.
Roll, J. K. 3 *l* 604 W. 114
Rollins, F. sp *ph* 356 W. 145
Roman, J. M. 4 *s* 204 W. 136
Rooney, K. E. *t* 14 Franklin st.,
Long Island City
Roos, L. L. 4 *m* 134 W. 85
Roovers, E. W. *t* 170 Dean st., Bklyn
Ropes, I. F. C. 2 *c* 507 W. 112
Rose, A. F. 2 *s* P. O. Box 57,
Tompkinsville, S. I.
Rose, C. R. 1 *c* 371 W. 117
Rose, R. H. 2 *m* 143 W. 61
Rose, W. W. sp *c*
South Orange, N. J.
Rosen, I. 1 *m* 124 Ridge st.
Rosenbaum, M. 1 *m* 73 Cannon st.
Rosenbaum, S. 3 *l* 247 E. 51
Rosenberg, D. D. 2 *m*
378 Park pl., Bklyn

Rosenblatt, G. B. 2 *s* 58 W. 49
Rosenblueth, M. E. 2 *c* 348 E. 72
Rosenbluth, B. 2 *m* 336 E. 70
Rosenbluth, M. 2 *m* 102 Attorney st.
Rosenbluth, S. M. 1 *l* 60 W. 114
Rosengarten, E. H. sp *s*
care Palmer, 79 W. 103
Rosenkrantz, E. gr *b*
422 West End ave.
Rosensohn, S. J. *pl* 24 Montgomery st.
Rosensohn, W. 4 *m* 24 Montgomery st.
Rosenstein, A. 2 *b* 49 W. 96
Rosenstein, S. B. 4 *b* 49 W. 96
Rosenthal, C. M. 3 *l* 344 E. 50
Rosenthal, L. W. 2 *s* 205 W. 112
Rosevear, N. H. 1 *m*
235 8th st., Jersey City, N. J.
Ross, H. W. 3 *c* 530 W. 123
Ross, S. M. 2 *s* 203 W. 103
Ross, W. H. 1 *m*
83 Grand ave., Bklyn
Rossbach, W. sp *c*
49 Oak st., Mt. Vernon, N. Y.
Rothganger, G. sp *m*
U. S. Naval Hospital, Bklyn
Rothschild, S. 1 *l* 337 E. 51
Rowe, N. L., Jr. 4 *m* 139A Academy st., Jersey City, N. J.
Rowland, H. H. 1 *m* 116 W. 64
Roy, H. F. 3 *l* 174 W. 126
Royall, E. D. 1 *m* 365 W. 55
Roys, C. K. 3 *m* 116 W. 64
Rubidge, F. T. 3 *s* 252 W. 121
Ruddell, F. S. *pl* 327 W. 112
Runge, A. 3 *s*
154 Bowne ave., Flushing, L. I.
Runyon, L. P. 1 *m* 137 W. 64
Rupp, A. *ph* 225 E. 19
Ruskay, B. 1 *s* 244 E. 86
Ruslander, S. L. 2 *l*
460 Manhattan ave.
Russell, B. E. 2 *s* 308 W. 115
Russell, J. I. 3 *m* 318 W. 57
Russell, P. W. 1 *l* 104 Lexington ave.
Ryan, M. J., Jr. 1 *l*
370 Van Brunt st., Bklyn
Ryan, J. P. 2 *m*
97 Liberty st., Danbury, Conn.
Ryan, P. F. X. 3 *m* 111 E. 75
Ryttenberg, C. P. 1 *c* 63 E. 78

Saam, C. S. *t* 522 W. 123
Sage, D. 3 *s* 501 W. 113
St. Clair, H. H., Jr. 4 *c* 344 W. 123
St. George, A. H. 3 *c* 35 Lorillard pl.
St. John, T. R. 2 *c* 407 W. 51
Sait, M. sp *b* Fiske Hall
Sakurai, N. *pl* 158 W. 123
Saladino, S. 1 *m* 387 Broome st.
Salant, A. B. *pl* 333 E. 123
Salant, L. *ph* 333 E. 123
Salant, W. sp *p* 333 E. 123
Sales, R. H. 4 *s*
Sander, E. J. sp *s* 1387 Lexington ave.
Sanders, F. R. *t* 168 W. 73
Sandford, E. D. 4 *b* Fiske Hall
Sands, J. 1 *l* 15 E. 33
Sandy, W. C., Jr. 3 *m*
262 North 6th st., Newark, N. J.
Sanford, M. T. *t* 400 W. 151
Sanguinetti, P. C. 1 *s* 225 W. 123
Sanville, F. L. 3 *b* 213 W. 105
Saphir, J. F. 2 *m* 330 E. 4
Sargent, F. A. 1 *m* 400 W. 20
Sargent, W. A. *t* 162 W. 129
Sarle, J. R. 2 *l* 231 W. 121
Sartori, A. J. 1 *m* 179 Park Row
Satenstein, D. L. 2 *m* 236 E. B'way
Satterlee, F. Le R., Jr. 1 *s* 8 W. 18
Satterlee, H. S. 4 *m* 8 W. 18
Satterlee, E. L. sp *s* 127 E. 72
Saunders, N. B. 4 *m*
Saxe, J. G. 3 *l* 458 W. 22
Schaeffer, B. L. 3 *m* 208 E. B'way
Schafer, A. S. 4 *c* 52 W. 46
Schaffer, N. M., Jr. 1 *l* 28 E. 38
Scharf, H. W. 3 *s* 108 W. 133
Scharps, A. S. 1 *l* 70 W. 52
Scharps, C. E. 1 *c* 102 W. 75
Schechter, N. 1 *m* 385 Powell st., Bklyn
Scheina, O. 1 *m* 1997 Lexington ave.
Scheinberg, L. 2 *m* 171 E. B'way
Schenck, G. K. W. 3 *m*
Flatlands, Bklyn
Scheuer, A. J. 2 *c* 22 W. 89
Schildecker, C. B. 3 *m* 135 W. 64
Schiller, B. *t* College Point, L. I.
Schimper F. J. 3 *s* 350 W. 120
Schley, G. B., Jr. *pl* 845 5th ave.
Schley, J. M., Jr. 1 *l* 628 5th ave.
Schlosser, P. 2 *s* 2 E. 92
Schmelz, I. H. *t* 7 Greenwich ave.
Schmidt, C. G. A. 3 *s* 202 W. 139
Schmidt, H. F. 1 *s* 351 W. 114
Schneider, F. A. 3 *m* 104 W. 64
Schnepel, G. A. 1 *m* 6 W. 66
Schoen, E. J. 2 *s* 57 2d ave.
Schoneman, M. C. gr *b*
Fort Washington
Schramm, A. O. 1 *c* 615 W. 158
Schreiber, G. G. 2 *l* 79–81 Worth st.
Schroeder, G. G. 1 *s*
Riverside Drive and 116th st.
Schroeder, R. C. T., Jr. sp *c* 1045 Bloomfield st., Hoboken, N. J.
Schulhofer, S. 3 *m* 338 E. 120
Schulman, R. 1 *c* 263 W. 126
Schulte, H. von W. sp *m* 47 W. 25

Schultz, A. P. 3 *m* 134 2d st.
Schurz, H. 3 *l* 16 E. 64
Schuster, E. 2 *c* 234 W. 120
Schuyler, M., Jr. *ph* 1025 Park ave.
Schuyler, R. L. 1 *c* 1025 Park ave.
Schuyler, S. E. 3 *b* 4 E. 37
Schwartz, H. W. 3 *m* 336 W. 56
Schwartz, L. 1 *l* 149 Chrystie st.
Schwed, C. H. 4 *b* 1245 Madison ave.
Schweitzer, H., Jr. 3 *m* 366 9th ave.
Schwerin, C. M. 3 *s* 324 W. 113
Schwersenski, A. L. 3 *l* 2018 5th ave.
Scisco, L. D. *pl* 237 W. 123
Scott, A. 2 *l* 258 W. 24
Scott, C. A. 4 *b* 302 W. 52
Scott, G. G. *p* 993 Amsterdam ave.
Scott, G. W. *pl* 6 Morningside ave.
Seaman, F. C. 1 *c*
135 St. James pl., Bklyn
Seaman, W. C. 2 *l* Glen Head, L. I.
Sears, C. H. *pl* 700 Park ave.
Seckel, W. 2 *m* 154 E. 79
Seelig, M. G. 4 *m* 38 E. 61
Seff, I. 2 *m* 57 E. 117
Seguine, E. M. 4 *c* Rosebank, S. I.
Seguine, L. R. 1 *b* Rosebank, S. I.
Seibert, J. R. 2 *b* 203 W. 103
Seifert, K. F. J. 2 *s* 540 E. 157
Seil, H. A. 1 *c*
90 Smith st., Perth Amboy, N. J.
Seligmann, R. A. 1 *l* 124 E. 80
Seligsberg, W. N. 2 *c* 1034 Park ave.
Selleck, E. E. 3 *m* 318 W. 57
Senftner, A. D. 3 *c* 148 W. 122
Sercomb, R. C. 1 *l*
Serrano, V. 3 *s* 3 W. 81
Sewall, F. H. 2 *c* 234 Montgomery st., Jersey City, N. J.
Seward, A. L. 2 *b* Fiske Hall
Seymour, A. T. *p* 3080 3d ave.
Shaen, M. C. 2 *b*
474 S. B'way, Yonkers, N. Y.
Shainwald, M. S. 1 *b* 661 5th ave.
Shainwald, R. L., Jr. 1 *c* 661 5th ave.
Shanahan, R. H. 4 *m* 145 W. 61
Shangle, M. A. 4 *m* Roselle, N. J.
Shannahan, R. J. 1 *m* 424 W. 57
Sharp, J. C. 3 *m* 373 12th st., Bklyn
Shaw, F. S. 1 *s* 248 W. 124
Shea, L. P. S. 1 *s* 76 Carmine st.
Shearer, L. H. 3 *m* 117 E. 54
Shearman, R. W. 3 *m* 398 Van Pelt st., Long Island City, N. Y.
Shearman, T. G., Jr. 3 *l*
1161 Amsterdam ave.
Shepard, W. A. 3 *c* 243 W. 99
Shepherd, F. A. *t* 175 W. 12
Sheppard, J. J. *pl* 890 West End ave.
745 Lexington ave., Bklyn
Sherer, G. *t* 530 W. 123
Sherer, P. A. 2 *l* 530 W. 123
Sherman, L. F. 1 *b* Peekskill, N. Y.
Shields, H. 1 *c* 302 W. 121
Shinodi, M. sp *pl* 121 W. 96
Shipman, C. S. 3 *m* 1 W. 128
Shiveley, R. K. 1 *l*
303 Amsterdam ave.
Shoemaker, H. W. sp *c* 22 E. 46
Shoemaker, W. B. 2 *c* 22 E. 46
Shotwell, J. T. *pl* 444 Manhattan ave.
Shreve, J. N. 2 *s* 136 E. 62
Shufro, J. J. *pl* 11 Eldridge st.
Shultz, M. E. 1 *m* 213 Whiton st., Jersey City, N. J.
Siedler, M. 1 *b* 108 W. 78
Siegel, H. L. sp *c* 1887 Seventh ave.
Sieker, H., Jr. *pl* 146 Elizabeth st.
Siglar, H. B. 2 *m* Newburgh, N. Y.
Silberberg, B. *t* 846 Lexington ave.
Silbiger, S. 2 *l* 64 E. 120
Silk, M. 2 *m* 68 North Moore st.
Sill, F. M. 4 *b* 232 W. 45
Silliman, J. C. 1 *m*
Simmons, A. P. *t*
46 Park ave., Yonkers, N. Y.
Simmons, F. sp *b* Fiske Hall,
Simmons, F. A. 1 *m* 308 W. 58
Simmons, W. A., Jr. 1 *c* 115 E. 16
Simon, T. W. 4 *m* 69 E. 87
Simons, A. G. 1 *s*
P. O. Box 131, Stapleton, S. I.
Simons, L. W. sp *b*
Port Chester, N. Y.
Simons, T. 4 *c* 320 Manhattan ave.
Simpson, E. B. 4 *b* Fiske Hall
Simpson, W. T. 3 *s*
270 St. Nicholas ave.
Sinclair, U. B., Jr. *ph* 165 W. 126
Sinnott, J. J. 1 *m* 242 S. 2d ave., Mt. Vernon, N. Y.
Skinner, A. M. *t* 554 W. 125
Skinner, M. D. 1 *b*
213 Lafayette ave., Bklyn
Slade, H. S. 4 *c* 95 Woodworth ave., Yonkers, N. Y.
Slater, O. W. L. gr *b* Summit, N. J.
Sloan, A. 2 *m* 106 E. 55
Sloane, T. O'C., Jr. 3 *s* 55 Montrose ave., South Orange, N. J.
Slocovich, W. P. *pl* 435 W 117
Slocum, H. B. 3 *m* 141 W. 64
Small, H. F. 3 *c* 54 W. 85
Smallwood, J. C. 1 *s* 713 Madison ave.
Smith, A. D. 2 *m*
53 Jefferson ave., Bklyn
Smith, A. G. 4 *c*
Smith, B. V. 1 *c* 39 Park ave., New Rochelle, N. Y.

Smith, C. C. 3 *l* 501 W. 125
Smith, C. H. 2 *s* 614 W. 113
Smith, C. H. 3 *m* 318 W. 57
Smith, C. H. *t*
198 Rodney st., Bklyn
Smith, C. Le R, 1 *s* 51 W. 86
Smith, D. H. 2 *m* 18 E. 46
Smith, D. S. 2 *c* 134 W. 12
Smith, E. L. *ph* 353 W. 120
Smith, E. O., Jr. 1 *s* 535 W. 159
Smith, F. G. 4 *s* 93 Neptune ave., New Rochelle, N. Y.
Smith, F. W. *t* 530 W. 123
Smith, F. W. 4 *m* 47 W. 49
Smith, H. K. 2 *c* 521 W. 123
Smith, H. V. A. 4 *m* 135 W. 64
Smith, J. B., Jr. 3 *c*
299 Alexander ave.
Smith, L. B., Jr. 3 *s* 474 W. 152
Smith, L. J. 1 *m* Turners, N. Y.
Smith, M. W. 2 *s* 101 W. 93
Smith, P. 4 *m*
Smith, R. K. sp *m*
Naval Hospital, Bklyn
Smith, R. L. 2 *l* Woodside, L. I.
Smith, R. W. 1 *s* 361 W. 22
Smith, S. E. sp *s* 155 W. 45
Smith, S. McK. *pl*
Smith, T. M. 2 *l* Yale Club
Smith, W. J. 1 *l*
Smith, W. R. *pl* 108 W. 115
Smithers, C. H. 1 *c* 117 W. 85
Smithers, J., Jr. 2 *c* 117 W. 85
Smyth, D. W. 2 *s* 435 W. 117
Snyder, F. X. 1 *c* 306 W. 115
Solá, M. A. 1 *l*
Soloman, N. C. 4 *s* 344 W. 145
Solomon, I. R. 2 *s* 841 3d ave.
Solow, A. S. 2 *s* 57 E. 86
Somers, N. L. 1 *c*
Somoskeoy, V. H. 1 *m*
Son, C. A. 3 *l* 417 W. 117
Southack, J. W. 3 *c* 48 W. 53
Southard, C. E. 2 *l* 252 W. 121
Southard, R. H. 1 *l* 155 B'way
Souther, C. P. sp *t*
293 Clermont ave., Bklyn
Spanier, L. 1 *m* 101 Mangin st.
Spaulding, A. B. 4 *m* 112 W. 61
Spence, H. T. 2 *c* 320 W. 75
Spencer, A. *ph* 16 W. 9
Spencer, C. 1 *b* 54 N. Parsons ave., Flushing, L. I.
Spencer, J. O. *pl* 237 S. 5th ave., Mt. Vernon, N. Y.
Spencer, J. W. 2 *c* 236 W. 49
Sperling, F. W. 1 *l* 164 W. 81
Sperry, E. E. *pl* 519 W. 123
Spiegel, L. 3 *m* 317 E. 30
Spiegel, M. J. 3 *l* 519 W. 123
Spiegelberg, E. E. 3 *l* 156 W. 44
Spiegelberg, S. L. 2 *c* 156 W. 44
Spiller, R. L. 4 *s* 526 W. 114
Spingain, A. B. 3 *l* 118 E. 58
Spingarn, A. 3 *m*
393 McDonough st., Bklyn
Spiro, W. J. 3 *c* 21 W. 95
Spitzka, E. A. 2 *m* 66 E. 73
Staber, M. J. *t*
360 Clinton st., Bklyn
Staley, J. E. *t* Fiske Hall
Stangland, J. C. *t* 157 W. 123
Stanley, R. C. 3 *s* 505 W. 112
Stark, M. 3 *m* 433 E. 57
Stark, N. 3 *m* 257 2d st.
Starr, R. S. 3 *m* 114 W. 69
Stauffer, A. F. *t*
1270 Amsterdam ave.
Stayton, J. W., Jr. 2 *l* 305 W. 112
Stebbins, R. 1 *s* 33 W. 9
Steedly, B. B. 3 *m* 2473 B'way
Steel, A. A. 4 *s* 386 W. 125
Steeves, H. R. 1 *c* 56 W. 130
Steinback, G. E. 4 *s* 52 Barclay st.
Stern, A. 2 *m* 1829 Crotona ave.
Stern, A. J. 2 *c* Bronxville, N. Y.
Stern, I. R. 1 *b* 993 5th ave.
Stern, M. 4 *m* 365 W. 55
Stern, N. *ph* 448 W. 43
Stern, S. W. 3 *l* 101 E. 81
Stetson, D. D. 1 *m* 346 W. 58
Stetten, De W. 3 *m* 53 W. 133
Stevens, M. E. *t* 1161 Amsterdam ave.
Stevens, T. S. 1 *s*
201 Washington park, Bklyn
Stevenson, M. 3 *c* 10 W. 43
Stewart, H. R. 2 *s* 359 W. 116
Stewart, J. B. 3 *s*
1390 Washington ave.
Stewart, J. F. 4 *m* 145 W. 61
Stewart, R. G. sp *s* 3133 Broadway
Stewart, V. C. 3 *c* 157 W. 82
Stewart, W. A. W. 3 *l* 27 E. 38
Stiger, W. D. 3 *l* 319 W. 74
Stoddart, C. W. 4 *c*
13 Ludlow st., Yonkers, N. Y.
Stoeckius, A. *ph* 78 E. 118
Stoll, H. F. 2 *m* 165 W. 77
Stophlet, M. M. sp *s*
1268 Amsterdam ave.
Stork, L., Jr. 1 *m* 703½ 3d ave., Bklyn
Stotler, J. H. *p*
170th st. and Audubon ave.
Stradling, F. 4 *m* 447 W. 57
Strasser, A. L. 1 *c* 128 E. 62
Stratford, A. C. sp *c* 366 W. 118
Straus, M. sp *b*
105th st. and Broadway

Straus, M. C. 1 *b* 20 W. 77
Straus, S. C. 3 *b* 27 W. 72
Straus, S. 4 *b* 105th st. and Broadway
Strauss, C. A. 1 *l* 107 E. 73
Strauss, L. 4 *s* 237 E. 12
Strauss, M. L. 3 *l* College Point, L. I.
Strebeigh, R. L. 2 *c* 76 E. 55
Stremel, K. F. 1 *l* 366 W. 118
Striker, E. P. gr *b* East Orange, N. J.
Stripe, F. E. 3 *l* 202 W. 103
Strodl, G. T. 1 *m* 614 Malone st., West Hoboken, N. J.
Stromeyer, W. T. 3 *s* 1008 Trinity ave.
Strong, E. E. *t* 21 W. 65
Strong, S. M. 2 *m* 78 W. 85
Stroup, N. W. sp *pl* Bronxdale
Strouse, A. L. 1 *l* 122 E. 86
Strunsky, S. 4 *c* 75 E. 110
Stryker, E. de M. 3 *m* 139 W. 61
Stuart, S. 1 *l* 529 W. 142
Studdiford, J. G. 3 *b* Fiske Hall
Sturgis, G. F. 1 *l* 158 Noble st., Bklyn
Sturtevant, H. R. 2 *c* 519 W. 123
Sullivan, F. A. 1 *l* 122 W. 64
Sullivan, J. J. 2 *m* 452 W. 58
Sumner, M. B. 4 *b* 246 W. 106
Sundberg, A. A. sp *t* 516 Orange st., Newark, N. J.
Sundheimer, M. 1 *l* 38 W. 76
Sutphen, E. B. 3 *m* 129 W. 61
Sutton, G. A. K. 1 *c* 64 7th st.
Suzuki, T. *pl* 34 Prospect st., Bklyn
Swanton, J. R. *ph* 141 W. 63
Swart, C. T. 2 *s* 226 S. 2d ave., Mt. Vernon, N. Y.
Sykes, E. H. 1 *l*
Sylvia, C. A. 2 *m* 117 W. 63
Symmes, W. B., Jr. 2 *l* 2002 Madison ave.

Takami, T. C. 1 *m* 136 Lawrence st., Bklyn
Talcott, M. L. sp *t* 315 Riverside Drive
Tallmadge, W. H., Jr. 1 *m* 67 Washington st.
Tanner, E. P. *pl* 579 E. 25th st., Paterson, N. J.
Tarditi, A. 1 *m* 387 Broome st.
Tattershall, F. *t* 417 W. 118
Tavenner, E. 3 *c* 166 W. 92
Taves, A. W. 1 *m* 34 W. 85
Taylor, C. T. 2 *c* 320 Manhattan ave.
Taylor, H. C. 1 *l* 252 W. 136
Taylor, J. W. 1 *c*
Taylor, M. H. *t* 408 W. 115
Taylor, O. N. sp *m* 155 Madison ave.
Teahan, W. J. 3 *m* 117 W. 63
Tebbetts, T. C. 3 *l* 27 W. 44
Tellzy, S. A. 1 *c* 51 Chester st., Bklyn
Tener, E. *t* 37 Morningside ave.
ter Meer, H. C. 3 *s* 1228 Garden st., Hoboken, N. J.
Terry, R. R. 1 *s* 204 W. 78
Teven, S. L. 1 *l* 238 7th st.
Thayer, R. H. 3 *s* Yonkers, N. Y.
Theall, E. S. 3 *l* 519 W. 123
Thompson, B. I. 1 *b* 206 Harrison st., Bklyn
Thompson, E. C. 3 *m* 116 W. 64
Thompson, H. *pl* 205 W. 123
Thompson, J. F. 1 *s* 206 Harrison st., Bklyn
Thompson, M. sp *b* 199 W. 134
Thorburn-Artz, L. N. *t* 215 W. 51
Thornley, J. 1 *l* Hotel San Remo, 74th st. and Central Pk. W.
Thurnauer, A. F. 1 *s* 113 E. 61
Thurston, L. S. 3 *s* 519 W. 123
Tibbals, A. 1 *s* 353 W. 119
Tiemann, H. P. 4 *s* 530 W. 123
Tilden, E. L. 1 *l* 227 W. 122
Tilton, A. R. 1 *m*
Tindell, G. R. 1 *m* 214 Townsend st., New Brunswick, N. J.
Tinker, E. L. 2 *c* 48 E. 57
Tinker, L. C. 4 *c* Newark, N. J.
Titus, H. W. 2 *m* 36 W. 61
Titus, S H. 3 *s* 360 Grand ave., Bklyn
Todd, G. W. 3 *m* 929 Amsterdam ave.
Todd, L. A. 4 *m* 161 W. 106
Toering, A. J. 4 *m* 405 W. 57
Tomlinson, R. D. 4 *m* 129 W. 64
Torrance, F. C. sp *b* 505 W. 112
Torrey, J. C. *p* 22 E. 47
Toscano, L. J. C. 1 *b* Astoria, N. Y.
Totten, E. L. 2 *b* 15 W. 73
Toussaint, C. A. 1 *c* 164 Hudson Boulevard, Jersey City, N. J.
Townsend, H. C., Jr. 1 *c* 354 W. 123
Townsend, M. G. 3 *b* 354 W. 123
Townsend, M. T. 1 *l* 130 W. 121
Tows, F. H. 2 *l* 34 W. 52
Trainor, J. H. 1 *m* 129 W. 61
Trask, H. K. 2 *c* 140 W. 46
Trigg, W. H. 2 *l* 203 W. 106
Trowbridge, E. K. *p* 115 E. 37
Truax, S. sp *s* care C. S. Diehl, Park Hill, Yonkers, N. Y.
Trudeau, E. L., Jr. 4 *m* 135 W. 64
Trueblood, W. T. sp *s* 847 West End ave.
Truslow, E. 1 *m* Y. M. C. A., 57th st. and 8th ave.

Tsilka, G. M. sp *pl* 41 E. 69
Tucker, L. E. *t*
483 Putnam ave., Bklyn
Tunick, I. S. 1 *m* 185 Allen st.
Turnbull, R. J., Jr. 2 *l* 6 W. 47
Turnbull, W. F. 1 *c*
27 Park pl., Orange, N. J.
Turner, L. D., Jr. 2 *l*
491 Manhattan ave.
Turner, W. S. 4 *c* 634 West End ave.
Tuttle, C. H. 1 *l* 46 W. 85
Tuttle, G. *t* 1161 Amsterdam ave.
Tuttle, M. L. *t* 1161 Amsterdam ave.
Tweedy, J. B. 1 *l* 712 West End ave.
Twichell, D. C. 1 *m* 317 W. 58
Twyeffort, W. K. 1 *s*
459 1st st., Bklyn
Tyler, C. B. 2 *l* 44 W. 92

Ulke, D. sp *s* 1029 Lexington ave.
Ullman, J. 1 *l* 108 E. 81
Ulman, J. N. 2 *l*
Underhill, B. F. 1 *s*
New Rochelle, N. Y.
Underhill, J. W. sp *b* 45 Lafayette pl.
Ungrich, M. J. 2 *s* 213 W. 133
Updike, D. M. 1 *s* 156 W. 74
Upton, H. D. 2 *s* 181 W. 87

Vail, M. B. *t* 1161 Amsterdam ave.
Vail, N. F. *ph* 112 E. 64
Valieant, J. F. 1 *l* 93 W. 103
Van Alstyne, W. B. 2 *m* 104 W. 64
van Beuren, F. T., Jr. 2 *m*
317 W. 58
Van Cise, L. K. 1 *b* Fiske Hall
Van Cise, W. M. 3 *c* 308 W. 115
Van Cott, E. E. 2 *b*
483 Manhattan ave.
Van Deerlin, R. W. 3 *s* 310 W. 119
Vandegrift, G. W. 3 *m*
76 S. 4th st., Bklyn
Van Dyke, B. S. 1 *m* Stockton,
Hunterdon Co., N. J.
Van der Clock, C. 4 *m*
54 Mercer st., Paterson, N. J.
Van Doren, G. B. 4 *m* 118 W. 69
Van Harlingen, E. M. *p* 44 W. 117
van Hoevenberg, H. 2 *l* 523 W. 156
Van Horne, J. R. 3 *s*
70 Summit ave., Jersey City
Van Horne, K. 4 *b* 222 Pacific ave.,
Jersey City, N. J.
Van Ingen, H. sp *b*
135 Henry st., Bklyn
van Ingen, P. 3 *m* 9 E. 71
Van Kleeck, C. M. 2 *c* 235 W. 45
Van Kleeck, M. J. 3 *l*
133 Manhattan ave.
Vannatta, A. M. sp *m*
Bayonne, N. J.
Van Pelt, S. E. *t* Morristown, N. J.
Van Vranken, A. B. 4 *m*
152 S. 9th st., Bklyn
Van Wart, F. B. 2 *m*
340 Putnam ave., Bklyn
Van Winkle, E. 3 *s*
127th st. and Convent ave.
Vary, H. J. 1 *m* 116 W. 64
Vaughan, M. M. *t* Astoria, L. I.
Veit, J. N. sp *c* Ashton Hotel
Ver Planck, W. E. 2 *s* 267 W. 79
Very, E. *t* Fiske Hall
Vigouroux, G. E. 2 *l* 50 W. 84
Vinson, B. *t* 875 West End ave.
Vinton, S. 3 *l* 1845 7th ave.
Vogel, K. M. 4 *m* 231 W. 71
von Deesten, H. T. 3 *m* 230 Washington st., Hoboken, N. J.
von Huffman, O. 1 *m* 165 W. 77
von Schrenk, A. 3 *s*
1676 East End ave.
Von Sholly, B. R. 1 *c*
Flushing, L. I.
von Taube, N. 1 *s* 671 Madison ave.
Voss, M. 1 *c* 67 E. 91
Vreeland, C. Le F. 4 *m* 112 W. 61
Vreeland, W. N. 3 *m*
94 Forrest st., Jersey City, N. J.
Vulté, N. P. 1 *s* 33 Park ave.,
New Rochelle, N. Y.

Walcott, G. D. sp *pl* 41 E. 69
Waldman, M. D. *ph*
787 Lexington ave.
Waldron, F. R. 1 *l*
450 Manhattan ave.
Wales, B. R. 2 *l* 450 Manhattan ave.
Walker, C. F. 3 *l* Guttenberg, N. J.
Walker, I. L. 4 *m* 139 W. 61
Walker, H. 2 *l* 55 W. 74
Walker, M. *pl* 1294 Lexington ave.
Wallace, W. H., Jr. 1 *s*
Ft. Schuyler rd., Westchester, N.Y.
Wallace, W. M. 2 *s* 60 E. 92
Wallach, A. F. 3 *b* 12 E. 62
Wallach, A. N. 1 *b*
403 Manhattan ave.
Walmsley, H. B. sp *m* 417 W. 118
Walsh, J. J. S. 3 *m*
Westchester, N. Y.
Walsh, L. A. 4 *s* 531 Manhattan ave.
Walsworth, C. L. *pl*
Walter, E. J. 4 *c* 28 E. 60
Walters, E. R. 1 *b*
Little Neck, N. Y.
Wann, M. *t*
Ward, A., Jr. 1 *l* 32 W. 11

Ward, C. W. 2 *l* 507 W. 112
Ward, E. 3 *c* White Plains, N. Y.
Ward, F. E. sp *ph* 121 E. 77
Ward, G. O. 2 *c* 420 W. 144
Ward, I. *t* 174 Sheridan ave., Bklyn
Ward, S. L. H., Jr. 4 *c*
White Plains, N. Y.
Ward, T. H. 1 *l* 57 E. 90
Ware, A. G. 1 *b* 1285 Madison ave.
Ware, E. T. *pl* 41 E. 69
Ware, S. L. 3 *l* 117 W. 95
Warner, A. H. sp *pl* 38 W. 65
Warner, L. T. 2 *l*
35 Mt. Morris Park, W.
Warren, B. R. sp *b*
684 St. Nicholas ave.
Warren, E. 1 *c* 48 W. 9
Warren, E. P. 2 *m* 44 W. 68
Warren, F. B. 2 *s* 101 W. 126
Warren, R. A. gr *b* 146 E. 30
Warren, W. A. 2 *s* 173 W. 79
Warren, W. O. 1 *l* 5 W. 83
Warren, W. T. 2 *s* Bronxville, N. Y.
Washburn, P. C. 4 *m* 118 W. 69
Washington, H. S. sp *p* 61 W. 74
Wason, D. B. 4 *m* 367 W. 56
Waterhouse, H. E. 2 *m* 347 W. 55
Waterman, E. F. 2 *l* 202 W. 103
Waters, A. S. *t* 369 W. 119
Waters, R. L. 2 *s* 453 W. 143
Watkins, A. C. *ph* 41 E. 69
Watkins, F. C. 1 *m* 400 W. 152
Watkins, J. C. 4 *b*
11 James st., Montclair, N. J.
Watson, C. E. 2 *s* 318 W. 113
Watson, E. L. 4 *m* 118 W. 61
Watson, J. S. sp *b* 165 W. 94
Watson, M. U. *t* 352 W. 117
Wattenberg, A. M. 3 *l*
1572 Washington ave.
Watterson, A. gr *b* 153 W. 84
Watterson, H. 1 *l* Manhattan Club
Way, C. M. *t* 64 W. 109
Weatherby, U. G. *pl* 121 W. 104
Webb, E. H. *t* 226 W. 114
Webb, F. R. 2 *m* 308 W. 58
Weber, L. G. 4 *m* 569 Park ave.
Webster, C. E., Jr. 2 *m* 36 W. 61
Wechsler, A. H. 3 *m*
1826 Fulton st., Bklyn
Weed, V. W. 4 *m*
675 Jefferson ave., Bklyn
Weekes, A. D., Jr., 2 *c*
116th st. and Riverside Drive
Weekes, H. H. sp *c* 47 E. 20
Weeks, L. S. 1 *s* 108 E. 26
Wehncke, M. L. 2 *b* Stapleton, S. I.
Weidmann, A. 2 *l*
73 S. 9th st., Bklyn
Weil, H. M. sp *b* 36 E. 74
Weil, R. 4 *m* 109 W. 77
Weimert, O. J. 3 *l*
460 Manhattan ave.
Weinstein, J. W. 4 *m*
122 Columbia st.
Weinstein, M. J. 4 *c* 544 W. 142
Weir, C. H. sp *m* 109 Waverley pl.
Weiss, A. J. B. sp *m*
162 Lexington ave.
Weiss, F. H. 3 *m* 43 W. 60
Weiss, L. 4 *m* 235 E. Kinney st.,
Newark, N. J.
Weisse, F. S. 4 *m* 46 W. 20
Weissman, M. 1 *m* 328 Stanton st.
Welch, J. E. 4 *m* 318 W. 57
Welcke, C. J. 2 *s* 237 W. 112
Welles, G. sp *s* 51 E. 64
Wells, J. E. *ph* 352 W. 120
Wells, J. G. 4 *m* 139 W. 61
Wells, W. H. 2 *m* 18 W. 60
Wemlinger, J. R. 4 *s* 304 W. 20
Wendell, M. G. 3 *b* 174 W. 109
Wendt, C. 3 *b* Larchmont, N. Y.
Wendt, J. 3 *l* 72 W. 120
Werner, A. 1 *c* 36 E. 73
Wertheimer, L. W. 1 *l* 362 W. 121
Wessells, E. H. 4 *s* 43 W. 91
West, C. *t* 1161 Amsterdam ave.
West, H. J. 2 *c*
Westcott, C. S. 3 *m* 407 W. 57
Westcott, W. B. 2 *m* 122 W. 64
Westerfield, W. R. 2 *l* 109 W. 123
Westervelt, L. sp *c* 7 W. 50
Weston, E. F. 3 *s* 604 W. 114
Wetherhorn, H. 4 *c* 117 E. 77
Wettlin, E. L. *t*
3 Grant st., Newark, N. J.
Weygandt, F. G. 3 *m*
645 Bedford ave., Bklyn
Weymouth, J. H. sp *b* 8 W. 64
Wharton, P. C. 2 *s* 16 W. 36
Wheeler, A. W. 2 *m* 352 W. 55
Wheeler, G. L. 1 *s* 561 W. 152
Wheeler, M. L. *t* Montclair, N. J.
Wheeler, W. L. 4 *m* 262 W. 23
Wherry, W. M., Jr. 1 *l* 165 W. 93
Whitaker, A. C. *pl* 600 W. 125
Whitbeck, B. H. 1 *m* 64 W. 68
Whitbeck, S. V. 3 *m* 114 W. 69
White, A. M. *t* 1161 Amsterdam ave.
White, C. *t* 1161 Amsterdam ave.
White, C. B. *pl* 700 Park ave.
White, F. J. 2 *s*
53 St. John's pl., Bklyn
White, G. D. 2 *m* 435 Fairmount ave.,
Jersey City, N. J.
White, J. C. *t*
23 Emory st., Jersey City, N. J.

White, J. F. 4 *m* 327 W. 28
White, J. L. 1 *m* Perth Amboy, N. J.
White, M. sp *t* 516 W. 125
White, R. H. 3 *c*
119 Franklin ave., Astoria, L. I.
Whitehead, J. H. sp *b* 29 W. 74
Whiteman, T. M. 1 *l*
367 Manhattan ave.
Whitenack, M. R. 4 *m* 19 Bathgate pl., Newark, N. J.
Whiteside, M. sp *b* 110 E. 36
Whitin, F. H. sp *pl*
349 Clinton st., Bklyn
Whitman, W. R. 3 *m* 122 W. 64
Whitney, C. E. 3 *b* 239 W. 105
Whitney, W. B. 1 *s* 239 W. 105
Whitney, W. L. 2 *l* 231 Lenox ave.
Whittaker, N. McL. sp *m*
158 Macon st., Bklyn
Whittaker, T. S. 4 *c* 71 E. 66
Whittemore, A. P. *t*
372 Manhattan ave.
Whittemore, E. R. 2 *m* 21 W. 65
Whittemore, L. B. *t*
372 Manhattan ave.
Whyte, W. de B. 2 *s* 142 W. 104
Wichman, F. M. 1 *s* 343 W. 121
Wickes, F. 2 *l* 14 W. 57
Wickham, J. N. 1 *m* Corona, L. I.
Wickham, R. D. 1 *l* 16 W. 61
Widmer, H. R. 1 *m*
Port Richmond, S. I.
Wiechmann, A. sp *t* 251 W. 100
Wilbur, H. L. *ph* 521 W. 123
Wilburn, E. P. *t* 522 W. 123
Wilcox, B. T. *t* 159 W. 130
Wilcox, E. D. 1 *b* 240 Drake ave., New Rochelle, N. Y.
Wilcox, H. B. 2 *m* 317 W. 58
Wilcox, M. gr *b*
New Rochelle, N. Y.
Wilkinson, L. *t* 522 W. 123
Willets, W. R. 2 *m*
25 Lefferts pl., Bklyn
Willett, A. H. *pl* 351 W. 115
Williams, B. P. *t*
762 Putnam ave., Bklyn
Williams, F. D. 1 *m*
Williams, H. T. 3 *m* 363 W. 56
Williams, J. *ph* 551 5th ave.
Williams, J. M. *pl* 41 E. 69
Williams, J. McC. sp *p* 57 W. 69
Williams, J. N. 4 *c* 445 W. 44
Williams, P. H. 3 *m* 58 W. 82
Williams, T. M. 3 *m* 127 W. 61
Williamson, A. 2 *s* 110 W. 91
Williamson, G. N., Jr. 1 *s* 22 W. 130
Williamson, J. L. sp *t*
Dobbs Ferry, N. Y.
Willis, O. A., *t* 522 W. 123
Willis, R. S. 2 *c* 313 W. 76
Willson, F. F. 2 *s* 139 W. 14
Wilmot, H. C. 2 *s* 203 W. 106
Wilner, E. 2 *s* 218 W. 4
Wilson, A. D. sp *t* 74 W. 124
Wilson, A. S. 4 *m* 521 W. 123
Wilson, B. W. 2 *l* 498 W. 133
Wilson, C. H. 2 *s* Mt. Vernon, N. Y.
Wilson, E. E. 4 *m*
Wilson, F. H. sp *m*
574 Madison st., Bklyn
Wilson, G. W. 2 *l* 463 Manhattan ave.
Wilson, L. G. 3 *s* 308 W. 89
Wilson, M. E. sp *t* 223 E. 12
Wilson, R. P. 1 *s*
Wilson, S. K. 2 *c* 120 W. 76
Wilson, W. C. 4 *m* 144 W. 64
Wilzin, J. 2 *l* 52 W. 71
Winchester, W. H. 4 *m* 459 W. 155
Wingfield, H. B. *t* Montclair, N. J.
Winslow, A. S. 2 *c* 68 W. 91
Winter, A., Jr. *pl* 507 W. 112
Winter, A. L. 4 *m* 404 W. 57
Winterburn, U. A. 2 *b*
Edgewater-on-Hudson, N. J.
Wintermute, G. P. sp *m* 304 W. 56
Wise, H. E. 2 *c* 507 Madison ave.
Wise, H. M. 3 *c* 102 W. 121
Wise, L. D. 1 *m* 273 W. 70
Wise, S. S. *ph* 772 Park ave.
Witteman, R. W. 2 *s* 88th st. and Ft. Hamilton ave., Bklyn
Witter, O. R. 3 *m* 143 W. 61
Witthaus, G. 1 *m* 27 E. 75
Woglom, W. H., Jr. 3 *m*
243 McDonough st., Bklyn
Wohlfarth, A. gr *b* 119 W. 129
Wolfe, W. H., Jr. 1 *l*
Wolff, A. M. 1 *s* 31 W. 54
Wolff, E. 1 *c* 120 W. 88
Wolff, G. L. gr *b* 125 E. 73
Wolff, J. B. 3 *s* 31 W. 54
Wolff, M. 1 *m* 133 E. 61
Wollheim, J. L. 2 *m* 317 E. 79
Wollmann, C. *ph* 521 W. 123
Wood, A. I. gr *b* 136 E. 18
Wood, A. J. sp *p*
162 Washington park, Bklyn
Wood, D., Jr. 2 *s*
Irvington-on-Hudson, N. Y.
Wood, L. N. 1 *l*
Wood, N. E. 3 *s*
712 West End ave.
Wood, W. 1 *s* 11 Wall st.
Woodhull, M. C. 4 *b* 174 W. 126
Woodman, F. U. sp *b* 106 W. 105
Woodruff, L. L. 3 *c* 202 W. 103
Woods, H. I. *p* 507 W. 125

Woodson, C. W. 4 *c*
444 Manhattan ave.
Woodward, C. G. *pl* 202 W. 103
Woodward, R. S., Jr. 3 *s*
408 W. 145
Woolf, E. A. sp *c* 832 West End ave.
Woolley, E. C. *pl* 210 W. 72
Woolsey, J. M. 2 *l* Englewood, N. J.
Wooster, F. R. 2 *c* 204 W. 128
Worden, A. J. *t*
299 Ellison st., Paterson, N. J.
Work, J. C. T. *t* 58 Morningside ave.
Worm, O. R. W., Jr. 1 *s* 548 E. 87
Worth, A. J. *t* 74 W. 124
Worthen, S. C. 3 *l* 501 W. 125
Worthington, H. R. sp *c* 29 5th ave.
Wortmann, A. 1 *c* 126 E. 79
Wortmann, M. 4 *c* 126 E. 79
Wright, A. sp *s* 271 W. 119
Wright, A. S. 2 *c*
Wright, C. A., 1 *l* 435 W. 117
Wright, E. *t* Corona, N. Y.
Wright, H. K. *ph* 41 E. 69
Wright, H. M. 2 *b* Fiske Hall
Wund, W. F. 1 *l* 327 E. 30
Wurzburger, J. 4 *b* 150 W. 65
Wyant, A. M. *t*
120 Carlton st., Elizabeth, N. J.
Wyatt, C. B. 1 *c* 28 E. 30
Wyckoff, C. J. 1 *c*
185 Penn st., Bklyn
Wyckoff, C. R. 2 *s*
185 Penn st., Bklyn
Wyckoff, G. P. *pl* 2 W. 133
Wyld, R. H. 1 *c* 331 W. 83
Wylie, J. P. 1 *c* 160 W. 123
Wyman, A. F. 2 *c*
456 Broad st., Bloomfield, N. J.
Wynkoop, J. sp *c* 229 E. 118
Wysong, C. N. 1 *l*
Port Washington, N. Y.

Yamagata, P. O. sp *pl* 175 9th ave.
Yates, W. H. 1 *s* 309 W. 128
Yocum, J. G. 3 *m* 144 W. 65
Yohannan, I. *ph* 138 E. 48
Yohannan, M. 2 *c* 138 E. 48
Yoneda, S. sp *pl* 175 9th ave.
York, F. B. 3 *l*
56 St. Mark's ave., Bklyn
Young, E. *t* 522 W. 123
Young, J. W. 1 *m* 127 W. 74
Yudelson, S. *t* 158 E. Broadway
Yung, M. B. 3 *s* 505 W. 112
Yuzzolino, A. M. 2 *l*
265 6th ave., Bklyn

Zeiger, F. *ph* Montclair, N. J.
Ziegel, H. F. L. 3 *m*
1186 Lexington ave.
Zinsser, H. W. 1 *m* 1 W. 94
Zipser, M. 3 *s* 149 Rivington st.
Zucker, A. A. 2 *s* 1227 Madison ave.

Summary of Officers

Professors	74
Adjunct and Associate Professors	15
Clinical Professors and Lecturers	15
Demonstrators	3
Assistant Demonstrators	9
Instructors	57
Tutors	32
Assistants	50
Curators	3
Lecturers	21
Clinical Assistants	70
OFFICERS OF INSTRUCTION	349
OFFICERS OF ADMINISTRATION	12
EMERITUS OFFICERS	13
TOTAL	374

Summary of Students

At Columbia an effort is made to distinguish sharply between the College and the University. From this point of view,

Columbia College is the College
The Faculty of Law
" " " Medicine
" " " Philosophy
" " " Political Science
" " " Pure Science
" " " Applied Science
} constitute the University.

College seniors may study under any of the university faculties. The Faculties of Law, Medicine, and Applied Science are professional faculties, and conduct the professional schools, known as the School of Law, the College of Physicians and Surgeons, the School of Mines, the School of Chemistry, the School of Engineering, and the School of Architecture. The Faculties of Philosophy, Political Science, and Pure Science conduct the work generally organized elsewhere as the graduate school; but in addition they give much instruction not only to seniors in the College, but also to regular students in the professional schools, a large percentage of whom are also college graduates. The table on the following page shows the total number of students studying in the College and under each faculty of the University, and also the number primarily registered in the College and under each faculty of the University. The first total is free from duplication, and shows the exact number of students in the institution. The second set shows the number studying under each faculty, including duplicates; the duplication indicates the extent to which Columbia's wide educational tender is treated as a unified tender, regardless of subdivision by schools and faculties.

Summary of Students (*continued*)

	Primary Registration	Total Registration
The COLLEGE:		
Senior class	94	
Junior "	83	
Sophomore "	112	
Freshman "	119	
Special students	50	
	458	459
The Faculty of LAW:		
Third-year class	99	
Second-year "	112	
First-year "	166	
Special students	1	
	378	398
The Faculty of MEDICINE:		
Fourth-year class	172	
Third-year "	157	
Second-year "	158	
First-year "	222	
Special students	58	
	767	774
The Faculty of APPLIED SCIENCE:		
Graduate students	4	
Fourth-year class	58	
Third-year "	128	
Second-year "	116	
First-year "	133	
Special students	44	
	483	489
The Faculties of PHILOSOPHY, POLITICAL SCIENCE, and PURE SCIENCE	316	583
TOTAL	2403	2703
BARNARD COLLEGE	299	
TEACHERS COLLEGE	826*	
AUDITORS	29	
GRAND TOTAL	3557	
LESS DUPLICATES	55	
	3502	

* Including 470 Extension Students.

Academic Calendar

1899—Oct. 2—Monday. First half-year, 146th year, begins.
Oct. 16—Monday. Last day of registration to obtain credit for residence for the full academic year.
Nov. 7—Tuesday. Election Day, holiday.
Nov. 30—Thursday. Thanksgiving Day, holiday.
Dec. 1—Friday. Holiday.
Dec. 2—Saturday. Holiday.
Dec. 15—Friday. Last day for notifying the Dean of the College of the choice of subjects for Graduation Theses.
Dec. 22—Friday
to
1900—Jan. 2—Tuesday, inclusive. Christmas holidays.
Jan. 3—Wednesday. Exercises of the University resumed.
Jan. 29—Monday. Mid-year examinations begin.
Feb. 10—Saturday. First half-year ends.
Feb. 12—Monday. Lincoln's Birthday, holiday.
Feb. 13—Tuesday. Second half-year begins.
Feb. 22—Thursday. Washington's Birthday, holiday.
Feb. 28—Ash-Wednesday. Holiday.
Mar. 1—Thursday. Last day for filing applications for University Fellowships.
April 2—Monday. Last day for filing applications for examination for higher degrees, and for handing in Graduation Theses in the College.
April 13—Good Friday. Holiday.
May 1—Tuesday. Last day for presentation of essays for the degree of Master of Arts, and for filing applications for Scholarships.
May 21—Monday. Last day for filing lists of elective courses in the College.
Final examinations begin.
May 30—Wednesday. Memorial Day, holiday.
June 10—Sunday. Baccalaureate Sermon.
June 11—Monday. Class Day.
Last day for filing teachers' certificates of candidates for admission to the College and the Schools of Mines, Chemistry, Engineering, and Architecture.
June 13—Wednesday. Commencement Day.
June 18—Monday. Examinations for admission to the College and the Schools of Mines, Chemistry, Engineering, and Architecture begin.
Sept. 17—Monday. Last day for filing teachers' certificates of candidates for admission to the College and the Schools of Mines, Chemistry, Engineering, and Architecture.
Sept. 24—Monday. Examinations for admission to the College and the Schools of Mines, Chemistry, Engineering, and Architecture begin.
Oct. 1—Monday. First half-year, 147th year, begins.

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